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ABSTRACT

Interviews, involving approximately 275 individuals, were conducted to analyze vocational education and community colleges in the State of Iowa. In addition, a limited survey was made of career education programs in secondary schools. The findings indicate that the area schools are open to all Iowans of post-high school age, that the students tend to come from families of modest income and are dependent upon part-time work, scholarships, and loans, and that some career education programs should be phased out. Recommendations covered the six areas of students and student services, curriculums and programs, professional staff, administrative organization, physical facilities, and finance. Three of the 46 specific recommendations were: (1) The state should concentrate on recruiting individuals who could best profit from vocational and technical education, (2) An overall master plan for all of Iowa education should be developed, and (3) The community colleges should be administered under state guidelines developed specifically for them. (GEB)

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VOCATIONAL EDUCATION AND THE AREA SCHOOLS

A Report to the State of Iowa
Office for Planning and Programming

IED 12973

INSTITUTE FOR EDUCATIONAL DEVELOPMENT

ED049390

VOCATIONAL EDUCATION

AND THE

AREA SCHOOLS

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U.S. DEPARTMENT OF HEALTH, EDUCATION
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Institute for Educational Development
52 Vanderbilt Avenue
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August 31, 1970

ABSTRACT

The focus of this study was on vocational education and the area schools (community colleges) in the State of Iowa. The procedures in conducting the study were: (1) individual and group interviews with approximately 275 individuals concerned with vocational education and the area schools; (2) a limited survey of career education programs in secondary schools; and (3) examination of existing data pertinent to the study.

Recommendations were prepared in six areas: (1) students and student services; (2) curricula and programs; (3) professional staff; (4) administrative organization; (5) physical facilities; and (6) finance.

The study also took a limited look at the problems of private colleges and a few of the activites of the regents universities as they relate to vocational education in the community colleges, and some of the effects the community colleges may have on the aforementioned institutions as well as on secondary education.

PREFACE AND ACKNOWLEDGMENTS

On May 5, 1970, the Institute for Educational Development (IED) entered into an agreement with the Office for Planning and Programming, State of Iowa, to conduct a study of vocational education and the area schools in Iowa. The study was financed jointly by the Department of Housing and Urban Development under a grant to the Office for Planning and Programming and by the Vocational Education Advisory Council of the State of Iowa. This document is the final report of the study in which IED presents its assessment of the present situation and recommendations for vocational education and the area schools in Iowa. The recommendations, undoubtedly, will not be entirely satisfactory to everyone concerned with vocational education in Iowa, but they should serve to illuminate choices and guide action, particularly with regard to the area community colleges.

As the organization responsible for the study, IED wishes to acknowledge the cooperation and assistance it has received from the many individuals who are interested in and concerned with vocational education in Iowa: the administrators, faculty members, and students in the area and secondary schools; personnel in the Department of Public Instruction; legislative leaders; industrial and labor leaders; and other citizens. The staff of the Office for Planning and Programming, including Mr. Dennis Harken, Mr. Gordon Bennett, Mr. Paul C. Heitmann and Mr. John Martens under the direction of Mr. Leroy H. Petersen, was especially helpful. Because of time constraints, IED had to rely on the staff for collecting and assembling existing data as background information for the study, as well as for conducting a brief survey of vocational education in the secondary schools, and for helping to arrange schedules for field interviews. Mr. Harlan E. Giese, Executive Secretary of the Vocational Education Advisory Council, was also helpful throughout the study.

IED is especially appreciative of the work of Dr. Clyde E. Blocker, President of the Harrisburg Area Community College (Pennsylvania), who served as project director,

field consultant, and author of the report; and of Dr. Virgil E. Christensen, Associate Dean of the Graduate School and Director of Research at Mankato State College (Minnesota), who served as field consultant and advisor to the study. The report clearly reflects their understanding of and expertise in vocational education and educational administration.

Dale E. Bussis
Institute for Educational Development

August 1970

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RECOMMENDATIONS

Students and Student Services

1. It is recommended that, since the State of Iowa and its citizens have more need at this time for paraprofessional and technical personnel than for additional large numbers of professionals with baccalaureate and graduate degrees, the primary thrust of student recruitment be aimed at individuals who can best profit from vocational or technical education.

2. It is recommended that student recruitment be confined to the state, and that active recruitment of non-residents be discontinued until reciprocity in higher education be established between Iowa and adjoining states.

3. It is recommended that the community colleges reexamine their admissions requirements to make certain that they are appropriate to each educational program as well as to each individual being admitted to such programs.

4. It is recommended that the community colleges continue to study the specific educational need of minority groups, the disadvantaged and the handicapped, and to develop more effective admissions criteria and procedures, student orientation programs, and appropriate career education opportunities for them.

5. It is recommended that the community colleges study the feasibility of using larger numbers of teacher faculty members as part-time counseling and guidance personnel. As presently organized, the professionals in these institutions are arbitrarily divided between instructional and counseling categories, which arrangement, although administratively

convenient, does not necessarily make the best educational sense.

6. It is recommended that the community colleges reexamine the current status and future development of athletic programs to make certain that if they are supported with the use of public funds that the community is aware of such use, that they serve a legitimate educational purpose, and that student participants are residents of the state.

7. It is recommended that occupational information of satisfactory quality and quantity be developed and made available to high school and community college students so that they are better informed to make individual decisions regarding educational programs and occupational choices. This recommendation might be implemented cooperatively by the community colleges, by a state agency and the colleges, or through a cooperative effort of one or more regents universities and the community colleges.

8. It is recommended that the community colleges explore the feasibility of short orientation programs for high school students interested in career education, which programs should include "on hands" experience and active participation in carefully selected classroom and laboratory activities on the campus.

9. It is recommended that the community colleges work closely with high school teachers and counselors to develop an orientation and occupational information program for high school teachers and counselors in order that secondary school personnel will have a broader interest in and a deeper understanding of career education.

10. It is recommended that the community colleges continue to reach out to minority groups, the disadvantaged and handicapped, through off-campus guidance centers closely coordinated with the Iowa Employment Security Commission and the State Office for Vocational Rehabilitation.

11. It is recommended that statewide research studies of high school and community college graduates be the responsibility of either the Department of Public Instruction or one of the regents universities, that such research efforts be designed and carried out in close cooperation with the student personnel staffs in the community colleges, and that the results of these studies serve as a basis for policy decisions by the individual institutions, the Department of Public Instruction, the State Board of Education, and the legislature.

Curricula and Programs

1. It is recommended that the state, perhaps through a commission appointed by the Governor, develop an overall master plan for all of Iowa education for the decade of the 1970's, an important part of which would be the development of community colleges as an integral part of the total educational system.

2. It is recommended that the state study and redefine the educational missions of the community colleges, with particular emphasis upon three programs; (a) vocational-technical education, (b) general and preprofessional education, and (c) continuing education.

3. It is recommended that each of the individual community colleges be required to develop five-year educational master plans, to be updated every two years, and to be filed with a state coordinating agency or commission. These master plans, when analyzed and revised, could be taken collectively as constituting a statewide plan for these institutions and thus stimulate the elimination of unnecessary duplication and competition.

4. It is recommended that the State Board of Education, or some other designated state agency, be responsible for the placement of selected career education programs in specific community colleges in order to eliminate

unneeded duplication and competition. Although Iowans should have several expensive programs available, enrollments in a number of these will always be low; therefore, some overall state authority should make certain that needless proliferation of courses in many different colleges be avoided.

5. It is recommended that there be a standard college calendar, not only in community colleges but in the regents universities as well. Career education courses and liberal arts programs are on completely different calendars in many community colleges, which makes it difficult or impossible to use expensive professional personnel in economic ways.

6. It is recommended that there be a statewide program for placement of community college graduates, which service should be organized or coordinated through the Iowa Employment Security Commission, if possible, or through

a cooperative arrangement among the 15 colleges. This program would make all graduates available to all Iowa employers, and might also prove to be more efficient than operating 15 separate placement offices in the colleges, and could be extended to include the employment needs of the total community.

7. It is recommended that existing apprentice programs in the trades and in industry be studied by representatives of labor, business and industry, community colleges, and Department of Public Instruction personnel, with the purpose to revise existing apprentice program requirements so that career education in community colleges be recognized as a legitimate part of the apprentice program.

8. It is recommended that a concerted effort be made by the community colleges and public school districts to delineate their respective educational roles with regard to career and vocational education so that these roles are

complementary rather than competitive. Clearer definitions of the objectives of secondary school vocational programs and, equally important, career education programs in community colleges would help to eliminate duplication of course content and make better use of professional personnel, equipment, and funds.

9. It is recommended that the community colleges develop criteria for full "phase-in" and "phase-out" processes relating to career education programs, recognizing the need for greater flexibility of educational choices by students in both high school and community colleges which may be completed at an accelerated, normal, or slow rate, depending upon the individual students.

10. It is recommended that the community colleges experiment with organizing at least some career education courses on the basis of behavioral objectives developed by the

faculty in cooperation with advisory groups from business and industry in an attempt to give sharper focus to individual courses, and to relate course content more directly to specific skills and patterns of behavior required by an occupation.

11. It is recommended that the requirement that semesters consist of 180 attended days per academic year be carefully reexamined, since its rigidity, which may be administratively convenient, may not be educationally sound. Perhaps community colleges should collectively adopt one or more appropriate attendance formulae which would be meaningful for career education, the liberal arts, and continuing education.

12. It is recommended that the State Educational Radio and Television Facility Board make a careful study, before committing itself to an extensive educational television network, of the feasibility of utilizing the instruc-

tional centers of the community colleges as natural locations in which to establish media centers and supporting educational television and staff services, since such centers will be within commuting distance of virtually the entire population of the state, making possible professional supervision of the work of students with reasonable economy.

13. It is recommended that a coordinating council for post-secondary education carefully examine plans for the expansion of the extension services of the regents universities, since there is a real danger that there will be duplication of educational services between extension centers and community colleges and it seems reasonable to consider housing of extension services in community colleges.

Professional Staff

1. It is recommended that a consistent plan for the continued educational and professional development

of faculties in community colleges be developed, such plan to include provisions for completing additional undergraduate and graduate courses, appropriate experiences through professional seminars and meetings, as well as planned sequences of experience in business, industry and government, in order that teachers and counselors associated with career education activities will have an intimate and up-to-date knowledge of the world of work.

2. It is recommended that the entire issue of mandated state certification of professional personnel in community colleges be reexamined and that complete, but flexible, criteria, specifically applicable for qualifications of teachers, counselors, and administrators of community colleges be developed.

3. It is recommended that Iowa's publicly supported universities be encouraged to offer comprehensive educational programs for the training of

instructional, counseling, and administrative personnel for community colleges, in order to overcome an acute shortage of individuals who understand the history and philosophy of two-year colleges, students and student personnel services, curriculum construction, instructional techniques, and the basic elements of administration and college governance.

4. It is recommended that Iowa's school laws and school codes as they apply to community colleges be revised so that the nomenclature for administrators be consistent with the rest of higher education and be the prerogative of the local college board of control.

5. It is recommended that since it is questionable whether an automatic increment salary system is superior to a merit plan that the salary schedules for professional personnel in the community colleges be reexamined with a view to making them more flexible.

Administrative Organization

1. It is recommended that community colleges be administered under state guidelines developed specifically for them rather than under the provisions of the school code. The study of the feasibility of this recommendation should include an analysis of rules and regulations in such states as Texas, Oklahoma, Illinois, Pennsylvania, and Washington which illustrate differing options relative to state coordination and control.

2. It is recommended that all area schools be called community colleges as a matter of consistency with national terminology and their post-secondary characteristics.

3. It is recommended that the state, through the Department of Public Instruction or another designated agency, assume responsibility for a comprehensive operational research program for community colleges as a basis for decision making

on both the state and local levels and to achieve more efficient planning and economical operation than could be carried on individually by the 15 different colleges.

4. It is recommended that an advisory committee composed of presidents of community colleges be organized for the purpose of recommending policies and procedures to the Department of Public Instruction. The committee should be the most important avenue of communication between the institutions and the Department of Public Instruction and the essential link in coordinating the activities of individual institutions within the framework of the total state education effort.

5. It is recommended that the community colleges, in cooperation with the Department of Public Instruction, develop a complete set of recommendations to be presented to the legislature each bieenium to include budgets for annual operating costs and capital construction costs. Necessary

periodic policy changes designed to improve the educational services of the colleges should also be included in these recommendations.

6. It is recommended that all communications between state agencies and individual colleges flow through the Department of Public Instruction and the college president, whose responsibility is to reconcile state policies and procedures and institutional activities. It should be clearly understood that the employees of a particular institution are responsible to the president.

7. It is recommended that the state study the necessity of maintaining 15 community college districts. Some districts have a small and declining population and lack an adequate tax base which will result in some colleges being too small to be economical.

8. It is recommended that the state study the feasibility of the 5 extension centers proposed by the regents universities to determine

whether there is justification for duplicating physical facilities and personnel if such a course of action can be avoided. The study should also address the question, what will be the impact of 5 extension centers on the viability of private four-year colleges and universities?

9. It is recommended that all community colleges cooperatively develop personnel policies for professional and non-professional employees. Reasonably standardized personnel policies should then be implemented in all 15 institutions.

Physical Facilities

1. It is recommended that the state develop a master plan for the construction of adequate campus facilities, the plan to include the whole system of community colleges and to be explicitly related to the planned development of these institutions over the next decade.

2. It is recommended that the state develop a master plan for financing the construction of physical facilities, based upon the current and future needs of the colleges with particular emphasis upon anticipated changes in the state's labor force and resulting educational requirements.

Finance

1. It is recommended that all athletic programs be self-supporting from sources other than tax funds (federal, state, or local).

2. It is recommended that differential funding for vocational-technical, general education, and adult education programs be studied. Vocational and technical programs are generally more expensive relative to both equipment and student-teacher ratios. One differential might be 1.5 for vocational-technical, 1 for general education, and .8 for adult education.

3. It is recommended that the community colleges adopt a standard programming, planning, budgeting system in order to insure uniform budget management and accountability. Such a system should be developed so that it is consistent with state and federal reports and other requirements.

4. It is recommended that in order to encourage individual and institutional gifts of land and money, that all such gifts be matched by state grants. State grants should not be given for gifts of equipment.

5. It is recommended that the state develop a standardized computer program for accounting for all funds in all community colleges. Such standardization would not only be more economical in terms of state audits, the work of the Department of Public Instruction, and the college business manager, but it would aslo insure that the colleges are providing the kinds of educational programs that were intended by the legislature and the State Board.

6. It is recommended that state aid payments to the colleges be made on a quarterly basis to stimulate effective control of cash flow and long-range financial planning.

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Chapter One

INTRODUCTION

This study was designed to investigate and analyze vocational education programs and the area schools or community colleges in Iowa. As part of the study a limited survey was also made of career education programs in the secondary schools. The primary focus of the study, however, is upon the breadth and effectiveness of vocational and technical education in the area schools. Broadly, the Institute for Educational Development (IED) was asked to:

1. Review the development and present status of area schools and community colleges.

2. Ascertain the general effectiveness of community colleges in meeting the post-secondary needs of Iowa's citizens.

3. Ascertain whether community colleges are carrying out the intentions of the legislature by comparing legislative mandates actually taking place on the campuses.

4. Ascertain the qualitative and quantitative effectiveness of community colleges in meeting the educational needs of the educationally and economically disadvantaged.

5. Study the adequacy of the financial support for community colleges.

6. Analyze the current administrative structures and functions of these colleges, as well as analyze their relationships with state agencies, secondary schools, private colleges, and the regents universities.

7. Recommend changes in the operation of the colleges.

8. Suggest studies which will further strengthen and improve these institutions in the future.

The formal agreement between the Office for Planning and Programming and the Institute for Educational Development included the following questions:

Students and Student Services

1. Is the rate of program completion satisfactory?

2. Are the placement rates of former students and graduates satisfactory?

3. Are levels of achievement of students up to the expectations of students and employers?

4. Are programs adequate to adult education needs?

5. Is the level of effort in the colleges adequate to adult education needs?

6. Is the training and retraining of adults adequate?

Curricula and Programs

1. Is related instruction (academic subjects) relevant to the needs and interests of the students?

2. Are there duplication of services with private schools, among and between area schools? If so, what are the duplication of programs?

3. Are academic programs related to the labor trends in Iowa?

4. Are programs balanced to the labor needs of the state?

5. What are the gaps or omissions in the programs, with particular emphasis upon the unemployed, handicapped and disadvantaged?

6. Are curricula designed in ascending order of complexity based upon job analyses and relevant to the varying levels of abilities in students, and thoroughly articulated with existing high school programs?

7. Are the programs adequate to adult education needs?

8. Is the level of effort in the colleges adequate to adult education needs?

9. Is the training and retraining of adults adequate?

10. Should area schools provide vocational education programs to high schools on a cooperative basis either in a central facility or at a central vocational facility supported by one or more high school districts?

Professional Staff

1. Is there adequate staffing in the colleges?

2. Are the qualifications of the staff satisfactory?

Administrative Organization

1. Are statewide goals specifically stated?

2. Are local goals specifically stated?

3. How are decisions made for planning, directing, and evaluating career programs?

4. Are areawide and statewide manpower and employment forecasts used?

5. Is the evaluation of programs and the institutions adequate? Who does it and are they qualified?

6. Are programs adequately administered from the local level and the state level?

7. What is the overall effectiveness for dollars spent?

8. Are the means by which programs are revised adequate and satisfactory?

9. Is there too little or too much centralization of planning of vocational programs?

10. Does structural organization and funding relate to current federal regulations and practices?

11. Does federal activity distort the state management structure and priorities.

12. Is information available and adequate for effective planning and management of vocational programs?

13. How should the activites of the state board be reordered or redirected?

14. What action should the state board and its staff take to improve the effectiveness and efficiency of overall program planning and evaluation activities?

15. What is the State Board's management responsibility in relation to state plan operation?

16. Is the viability of private colleges threatened by the liberal arts program in area schools?

17. Should contractual relationship among private and/or proprietary institutions and area colleges be encouraged rather than continued expansion of area school programs?

Physical Facilities

Are physical facilities including plant and equipment adequate to support the vocational education programs being offered?

Finance

1. Is the funding for vocational and technical programs adequate? If not, are there other valid ways to measure it?

2. How adequate are the means by which programs are budgeted?

3. Does the structural organization and funding relate to current federal regulations and practices?

4. Does federal activity distort the state management structure and priorities?

Procedures

The basic procedure for generating the broadest possible information base for the study was individual and group interviews with approximately 275 persons throughout the state who were either directly concerned with the operation of vocational education programs or with the products of such programs: legislators, state and local educational administrators, faculty members, employees, students, labor representatives, and other interested citizens. A list of the individuals interviewed is included in Appendix I, page 151. A copy of the interview schedule is included in Appendix II, page 157.

The second source of information were documents pertaining to vocational education, the area schools, and statewide planning. Approximately 125 documents were reviewed. A bibliography of these materials is included in Appendix III, page 165.

A third source of information was a survey of career education programs in secondary schools. Ninety-nine (99) high schools were selected from 72 school districts in the state, based on three categories of size: the largest districts being from 6,182 to 45,715 students, the second largest being from 1,175 to 6,084 students, and the smallest being from 175 to 1,168 students. Out of the 99 high schools to which the questionnaire was sent, 56 replies were received.

These procedures were used to elicit substantive information and this report presents the reactions of IED and its consultants to this information, as well as recommendations for improving vocational education and the area schools or community colleges in Iowa.

Limitations of the Study

Any study of an enterprise as complex as education has limitations, and this study is not an exception. Although primary attention was given to vocational and technical education in the area schools, it was necessary to examine other aspects of the institutions being studied, particularly their relationship to other institutions. As noted earlier, a limited analysis of vocational-technical education in the secondary schools was attempted. In addition, during the course of the study a limited look was taken at the relation of the area schools to private colleges, as well as a few activities of the regents universities.

Since the study was planned and executed in less than ninety days, it was necessary to rely heavily on existing information that was readily available. This was especially true for the history of community colleges in Iowa (Chapter 2), and for the discussion of Iowa's population characteristics and labor force (Chapter 3).

A list of the primary recommendations appears on pages xi to xxx. Additional recommendations and suggestions for further analyses or studies to be undertaken in the future appear throughout the report.

Chapter Two

HISTORY AND CURRENT STATUS OF AREA COMMUNITY COLLEGES[1]

History

Iowa has had a long history of leadership in the junior college movement in the United States. The first public community or junior college in Iowa was organized as a department of the public schools in Mason City and began operation in September 1918. It was established without legal sanction, as there was no law in the statute books at the time authorizing the organization of junior colleges as part of the public school system. The following year, 1919, Mason City Junior College received accreditation by the North Central Association of Colleges and Secondary Schools.

Burlington Junior College was organized in 1920. From then on the movement spread rapidly, and by 1939, at least thirty-two towns and cities in Iowa had organized junior colleges as a part of their public school systems. The junior college movement in Iowa reached its crest in 1927, during which year nine public junior colleges were organized. After 1930, no more public junior colleges were organized until 1946, when Clinton Junior College was organized.

The first law authorizing the establishment of public junior colleges was enacted in 1927 by the 42nd General Assembly. This law permitted the establishment of schools of higher order than an approved four-year high school course when duly authorized by the voters and approved by the state superintendent of public instruction. Such schools were able to include courses of study covering one or two years of work in advance of that offered by an accredited four-year high school.

1 - Pages 7 to 18 of this chapter, including the Sections on History, Current Status, and Enrollment Growth, are taken from Opportunities 1968-70, Des Moines, Iowa: Department of Public Instruction, pp. 1-7, with minor adapatations.

Legislation approved by the 44th General Assembly in 1931 initiated the first restriction to the development of public junior colleges. This legislation prohibited the establishment of a public junior college in any school district having a population of less than twenty thousand. The 49th General Assembly in 1941 reduced this population requirement from twenty thousand to five thousand.

In 1949, the 53rd General Assembly established the concept of general state aid to public junior colleges by approving the payment of twenty-five cents per day of attendance for each junior college student enrolled for twelve or more semester hours of work. In 1957, the 57th General Assembly increased this amount to one dollar per day. State aid was later increased by the 59th General Assembly, in 1961, to one dollar and fifty cents per day for non-resident students.

From 1918 to 1953, thirty-five different public junior colleges were established under the operation of local public school districts. Some of these colleges later closed, although ten of the closed colleges re-opened at later dates. The enrollment trend of the public junior colleges steadily increased over the years, although there were some exceptions to this trend such as the years during World War II. During the decade, 1955-1965, which immediately preceded the initiation of the area schools, enrollment of public junior colleges doubled.

By the year 1965, there were a total of sixteen public junior colleges operating in Iowa. The total full-time enrollment during the fall semester of the school year 1965-66 was 9,098. These public junior colleges were operated by local public school districts and were administered by a dean who reported directly to the superintendent of the local school district. The colleges offered college parallel programs equivalent to the first two years of a baccalaureate program and a limited number of occupational programs and adult education opportunities.

The names and dates of organization of the sixteen public community or junior colleges operating in Iowa immediately prior to development of the area schools are listed below:

Mason City Junior College 1918
Burlington Community College. 1920
Fort Dodge Community College. 1921
Clarinda Community College. 1923
Estherville Junior College. 1924
Creston Junior College. 1926
Webster City Junior College 1926
Boone Junior College. 1927
Marshalltown Community College. 1927
Eagle Grove Junior College. 1928
Ellsworth Community College (Iowa Falls). 1929
Muscatine Community College 1929
Centerville Community College 1930
Emmetsburg Community College. 1930
Clinton Junior College. 1946
Keokuk Community College. 1953

Other community and junior colleges that have operated in Iowa but were discontinued prior to 1965 are:

Town	Date Established	Closed	Reopened	Closed
Grundy Center	1921	1929		
Red Oak	1922	1943	1945	1951
Waukon	1923	1948		
Sheldon	1926	1943	1945	1951
Washington	1926	1943	1946	1951
Albia	1927	1943		
Britt	1927	1943	1947	1951
Chariton	1927	1943		
Cresco	1927	1929		
Osceola	1927	1943		
Sioux City*	1927	1928		
Tipton	1927	1943		
Maquoketa	1927	1943		
Bloomfield	1928	1943	1945	1949

* Existing records are not clear as to whether the Sioux City Junior College was a public or private junior college. Consequently this college has not been included in the total number of public junior colleges.

Town	Date Established	Closed	Reopened	Closed
Earlham	1928	1931		
Independence	1928	1943		
Manchester	1928	1929		
Clarion	1929	1930		
Elkader	1929	1948		
Perry	1947	1948		

The sixteen public junior colleges operating in 1965 were located for the most part in small communities which naturally curtailed the tax base for the support of the college and the bonding capacity which was essential for the construction of adequate physical facilities. According to the 1960 census, not one of the sixteen was located in any of the seven most populous counties in the state.

A parallel movement to the public junior colleges for providing vocational education was initiated in the 1960's as a result of Title VIII of the National Defense Education Act approved by Congress in 1958. Federal funds, as a result of this Act, were made available to states on a matching basis for the development of area vocational programs. The Iowa State Board of Public Instruction implemented this legislation by modifying the state plan for vocational education to make local school districts as well as Iowa State University eligible to operate as "area" schools. A total of fifteen schools were eventually designated as area vocational-technical schools by the Iowa State Board of Public Instruction. The total full-time day students enrolled in vocational education programs for school year 1965-66 was 1,815; the majority of these students attended the area vocational-technical schools.

By the year 1965, there were a total of fifteen schools that were designated as area vocational-technical high schools

or programs. The names of these schools are listed below:

Ames Community School District
Burlington Community School District
Cedar Rapids Community School District
Centerville Community School District
Clarinda Community School District
Clinton Community School District
Council Bluffs Community School District
Davenport Community School District
Des Moines Independent Community School District
Fort Dodge Community School District
Iowa State University
Mason City Community School District
Ottumwa Community School District
Sioux City Community School District
Waterloo Community School District

The 61st General Assembly in 1965 approved legislation (Senate File 550, Acts of the Iowa 61st General Assembly which became Chapter 280A, Code of Iowa) permitting the development of a statewide system of post-secondary educational institutions operated under the direction of the Iowa State Board of Public Instruction. These institutions were officially designated as area schools and were to be organized by merged areas which included two or more counties. The boards of education of county systems were authorized to plan for the merger of county school systems or parts thereof to develop a merged area. Each merged area was required to have a minimum of at least 4,000 public and private pupils in grades 9 through 12.

The merged areas were authorized to develop area schools as either area community colleges or area vocational schools. The statement of philosophy contained in the original enabling legislation and amended in 1967 by the 62nd General Assembly (Senate File 616, Acts of the Iowa 62nd General Assembly) identified the following categories as appropriate educational opportunities and services to be provided by the area schools.

1. The first two years of college work including pre-professional education. (This does not apply to

those merged areas that organized as area vocational schools.)

2. Vocational and technical training.

3. Programs for in-service training and retraining of workers.

4. Programs for high school completion for students of post-high school age.

5. Programs for all students of high school age who may best serve themselves by enrolling for vocational and technical training while also enrolled in a local school, public or private.

6. Student personnel services.

7. Community Services.

8. Vocational education for persons who have academic, socio-economic, or other handicaps, which prevent their succeeding in regular vocational education programs.

9. Training, retraining, and all necessary preparation for productive employment of all citizens.

10. Vocational and technical training for persons who are not enrolled in a high school and who have not completed high school.

The legislation establishing the area schools limited the number of merged areas to not more than twenty. This number was amended by Senate File 616 to permit the development of no more than seventeen area schools.

The funding of the area schools was provided for through a combination of federal, state, and local funds and student tuitions. These funds include a local three quarter mill levy on property within the merged area for operational funds and an additional three quarter mill levy for the purchase of

sites and construction of buildings. The levy for sites and construction must be approved by the voters in the merged area for a period not to exceed five years. General state aid is distributed to area schools on the basis of $2.25 per day on the average daily enrollment of full-time students and the full-time equivalent of part-time students. The individual area school has the authority to establish tuition. However, tuition for residents of Iowa is not to exceed the local tuition rate per semester, or the equivalent, charged by one of the three state universities. Tuition for non-residents of Iowa shall be not less than one hundred fifty percent and not more than two hundred percent of the tuition established for residents of Iowa.

Admission to the area schools is open to all Iowans of post-high school age, as well as high school students who qualify for one of the special programs offered in some area schools. All area schools are co-educational and have an "open door" policy of admissions. Individual programs within area schools may have certain prerequisites but these are generally only those minimal requirements necessitated by the nature and level of the program.

Current Status

There has been a tendency to merge existing public post-secondary programs into the statewide system of area schools. For example, fifteen of the former public junior colleges have merged with area schools. In addition, a great many adult education programs and post-secondary occupational programs operated by local school districts have merged into the area schools.

Several of the area schools have emerged as multi-campus institutions. These institutions have merged with existing public junior colleges and in some instances have developed additional sites which are more convenient to large population centers.

The growth of the area schools has been impressive both in terms of total number of students enrolled and the number of program opportunities offered. In the school year 1965-66, immediately prior to the formation of the area schools, there were only twenty-five different occupational programs available in post-secondary institutions throughout the state. This number increased to 84 different occupational programs by the fall of the school year 1968-69. The total number of students enrolled in area schools during the school year 1968-69 was approximately 100,000 of which the great majority were part-time students enrolled in adult education programs.

The relatively large increase in enrollment can also be illustrated by the increase in full-time equivalent enrollment in the area schools. The full-time equivalent enrollment includes the enrollment of full-time students and the equated enrollment of part-time students. Since this figure is used to determine state general aid it includes only Iowa residents enrolled in programs eligible for state general aid, which include slightly more than ninety-five percent of the total full-time enrollment in area schools and most of the part-time enrollments, exclusive of the non-reimbursable continuing and general adult education classes. This full-time equivalent enrollment has increased from 10,165 in the 1966-67 school year to 19,758 for the 1968-69 school year. The increase over the first year of operation is nearly ninety-five percent. It is important to note that the vast majority of students included in the 1966-67 full-time equivalent enrollment represented enrollment which to some estent carried over from the former public junior colleges that merged with the area schools.

Currently the area schools offer a wide range of programs. Included among these programs are the following:

Part-time adult education for all Iowans of post-high school age. These opportunities include: adult basic education, high school completion, college parallel courses, supplementary occupational programs for

employed workers, and a wide variety of continuing education courses of an avocational, recreational or preoccupational nature within each merged area. Many of these programs are offered with the cooperation of local school districts within merged areas.

A variety of occupational programs which provide initial preparation for employment and include study in full-time programs of from one quarter to two years or more in length. These programs include preparation in a variety of careers from those that require mastery of relatively complicated manipulative skills to those technical programs that require extensive preparation in math and science before entry into the program.

College parallel programs which include full-time programs comparable to the first two years of a baccalaureate degree program which may be transferred to a four-year institution and specialized programs of study which initially may serve a terminal purpose of employment, but which may later be applied toward a baccalaureate degree as the person advances professionally in his career. Examples of the latter type of program are law enforcement and library science.

Community services related to the needs of the individual merged area.

Special programs for students who also are attending local high schools in the merged areas while attending the area school.

Remedial programs for students with special needs who require assistance in the development of basic skills before entrance into other programs.

Programs for handicapped students which include such opportunities as special courses, evaluation centers, and sheltered workshops.

Special educational programs designed to assist Iowans who are currently institutionalized. These pro-

grams include opportunities for residents of the Men's Reformatory at Anamosa and the State Penitentiary at Fort Madison and the Women's Reformatory at Rockwell City.

All area schools provide an opportunity for the development of NEBIT (New and Expanding Business and Industry Training) programs. These are programs offered in conjunction with local business and industrial organizations to prepare individuals for new employment opportunities as they arise. This program is geared to assist in the expansion of existing corporations and the attraction of new corporations to Iowa.

The above mentioned programs are indicative of some of the programs now offered in the area schools. Not all area schools offer identical programs. Programs are developed according to local needs and the resources available to the area schools.

Enrollment Growth

The statewide system of area schools has demonstrated significant growth since its inception during the school year 1966-67. Fourteen of the present fifteen area schools were organized during that year and offered one or more educational programs. In some cases, the area schools assumed operating control of local public community and junior colleges during the first year.

TABLE 1

Full-Time Equivalent Enrollments (FTEE)*
Reimbursable Only

	Adult Education	College Parallel	Vocational-Technical	Totals
School Year 1966-67	669	7,345	2,150	10,165
School Year 1967-68	2,431	9,264	4,720	16,416
School Year 1968-69	3,262	9,236	7,259	19,758
[1](Estimated) 1969-70	3,605	9,844	8,586	22,035
[2](Projected) 1970-71	5,330	11,081	9,712	26,123

* One full-time equivalent enrollment (FTEE) is equal to either: (1) student carrying 12 or more semester hours of work for 180 days; or (2) a total of 432 equivalent contact hours of 2 or more part-time students.

1 - Estimate made by Department of Public Instruction.

2 - Projection made by Department of Public Instruction.

The full time equivalent enrollments indicated above demonstrate the enrollment growth of the area schools in their three years of operation. However, this enrollment represents only the reimbursable full time equivalent enrollment and therefore represents only a part of the enrollment growth albeit a very significant part. Perhaps a more meaningful picture of the actual enrollment is presented by the headcount (actual bodies) of students enrolled. During the 1968-69 school year the area schools enrolled more than 100,000 students. The vast majority of these students were part-time students who enrolled in adult education programs. The actual headcount for school year 1968-69 of all students enrolled (including non-resident and students enrolled in non-reimbursable) as well as the headcounts for just those students enrolled in reimbursable programs is listed below. In addition, below each headcount is the full-time equivalent enrollment for each headcount. These figures represent the most complete picture of enrollment in the area schools.

TABLE 2

Enrollments And Full-Time Equivalent Enrollments (FTEE)*
(1968-69 School Year)

	Adult Education	College Parallel	Vocational-Technical	Totals
Headcount (All Students)	63,353	15,777	22,873	102,003
Full-Time Equivalent Enrollment (All Students)	3,729	9,785	7,409	20,923
Headcount (Reimbursable only)	47,549	14,656	22,524	84,729
Full-Time Equivalent Enrollment (Reimbursable only)	3,262	9,236	7,259	19,738

The enrollment for adult education includes part-time enrollments in a number of individual programs. The 1968-69 full time equivalent enrollment for reimbursable adult education programs is broken down below to illustrate the major classifications included.

* See definition of FTEE on previous page.

TABLE 3

Adult Enrollment - School Year 1968-69
Full-Time Equivalent Enrollments (FTEE) Reimbursable Only

Adult Basic Education	923
College Parallel	60
Continuing and General	1,027
High School Completion	1,152
Vocational-Technical	98
Total	3,262

Analysis and Critique of Current Legislation

The statement of educational missions passed by the 62nd General Assembly in 1967 is one of the most forward looking and complete definitions of the many and diverse missions of community colleges which exist in the United States today. It encompasses a wide spectrum of activities which if the community colleges can carry out will give the state a complete system of post-high school education.

Unfortunately, in the same legislature, substantive changes of previous legislated enactments included some changes which are of dubious value for a post-high school system.

1. Refers to community college districts as "merged areas," and to community colleges as "area schools."

2. Repeals a section of S. F. 550 which called for a "Division of Community Colleges" in the State Department of Public Instruction and substitutes for it "an area school branch" of the DPI.

3. Stipulates that the person heading the "area schools branch" shall be an "assistant superintendent," and that he shall "assign to duty, personnel trained in the areas of vocational-technical education, administration and finance,

adult and continuing education, student services, arts and sciences, and related fields." The stipulation in S. F. 550 requiring community college or higher education experience has been completely removed by S. F. 616.

4. Charges the "assistant superintendent for area schools" with the responsibility of "approving or disapproving all budgets, courses, and programs to be offered at the various area schools." Tight control of community college operations by the State DPI is thus assured. There seems to be no room for autonomy, and a certain measure of autonomy is essential for a collegiate-level institution.

5. Changes the name of the "State Advisory Committee on Community and Junior Colleges" to "State Advisory Committee on Area Schools"; and further, substitutes for the member who was to represent "public and private junior colleges" (in S. F. 550) the wording, "a member to represent industry and management."

The legislation in 1966 seriously weakened these institutions for it put extraordinary stress upon vocational education at the expense of general education and continuing education. Senate File 616 was probably more instrumental than any other factor in the loss of North Central accreditation of these institutions.

Accreditation

Public junior colleges have been authorized, and periodically appraised, by the Department of Public Instruction for many years. Such authorization and appraisal at the state level is an almost universal practice throughout the country. It is generally considered the initial step in assuring institutional performance on a minimum qualitative level. Its purpose is also to reassure state agencies and students that the educational programs being provided are of acceptable level and substance.

Apparently, accreditation by the North Central Association of Colleges and Secondary Schools has not historically been a matter of significant import to these institutions. Accreditation by the North Central Association was held by the following numbers of colleges between 1963 and 1969.

TABLE 4

Number of Colleges Accredited, 1963-1969[1]

Year	Number of Colleges	Year	Number of Colleges
1963-64	4	1966-67	4
1964-65	4	1967-68	6
1965-66	4	1968-69	3

As a result of the withdrawal of North Central accreditation of several colleges, a consultant from the Association visited the state and wrote a report dated July 10, 1968. His criticisms follow:[2]

1. Lack of autonomy of operation and policy determination consistent with the local controls structure established as a part of the state plan.

2. The local board of control, administration, and faculty have not been sufficiently and appropriately involved in the development and continual review of educational objectives and policies determined at the state level which affect the local college. Inadequate faculty involvement in policy making areas.

3. State financial support is inconsistent with stated commitment to a comprehensive community college program, and lacks stability for planning.

4. The state laws are equivocal regarding the development of a comprehensive community college.

1 - Junior College Directories, American Association of Junior Colleges, 1964, 1965, 1966, 1967, 1968, 1969, 1970.

2 - Isaac K. Beckes, Report of the Consultant Assigned by the North Central Association of College and Secondary Schools to the Iowa Community Colleges, July, 1969.

5. Within the institutions there is a lack of clarity and commitment regarding the nature and function of the comprehensive community college programs.

6. Lack of collegiate level technical programs, as distinct from vocational programs.

7. Lack of commitment to and implementation of appropriate college-level general education and technical programs.

Since this report was written, there apparently has been some rapprochement between the Association and some of Iowa's community colleges, and some changes in the relationships between these colleges, the State Board of Education, and the Department of Public Instruction. The current status of accreditation of area schools is as follows:

TABLE 5

Accreditation Status of Area Schools

Full Accreditation	Correspondent Status
Area II	Area III
Area VI - All Campuses	Area V - All Campuses
Area IX - Muscatine Campus	Area IX - Clinton Campus
Area X	Area XI
	Area XIII - Council Bluffs Campus
	Area XIV

Definition of Terms

There are a number of terms which have wide usage in the state, and additional ones which will be used consistently throughout this report, so they should be defined for the reader. The nomenclature of education can be relatively exact, or it can be confusing and misleading if not properly used.

Area schools - the official designation of the administration units as defined by the 62nd Iowa General Assembly, Senate File 550. There are 15 such area schools covering virtually every county and school district in the state.

Campus - these are physical centers designed for educational purposes. They may consist of campuses of community colleges which became a part of the state system in 1960, became a part of the area schools in 1965 or in later years, or designated instructional centers which may or may not be owned by area schools. The words campus and instructional center will be used interchangeably in this report.

Administrative center - a number of the colleges have separate administrative centers housing the superintendent and his staff. These may or may not be housed on a campus.

Superintendent - the legally designated executive officer of the institution.

Community college - for the sake of consistency with national terminology, area schools will be referred to as community colleges.

Vocational - vocational programs and courses are defined as educational experiences requiring widely varied lengths of formal instruction and on-the-job experience. Generally speaking, such courses and programs require a limited amount of related instruction in social sciences, humanities, mathematics, and sciences. Vocational education is defined in federal legislation and the Iowa State Plan for Vocational Education.

Technical - technical education is defined as courses and programs requiring more extensive formal classroom instruction in the area of specialization, social sciences, humanities, mathematics, and science than that required in vocational courses and programs. The primary distinction between vocational and technical levels of programs and occupations is the quantitative and qualitative differences in abstract intellectual processes required of the student. Technical education comes within the purview of federal legislation and the Iowa State Plan for Vocational Education.

Academic or college parallel - these courses and programs are traditional in the sense that they constitute a portion of the baccalaureate degree program, and that their format and content closely resemble similar courses in regents universities.

Full-time equivalent enrollment (FTEE) - this term means (1) one student enrolled in twelve or more semester hours of work for 180 days; or (2) a total of 432 equivalent contact hours of two or more part-time students.

Effects of Establishing the Community College System

The establishment of Iowa's community colleges disturbed the equilibrium of a number of existing institutions. First, the offering of programs in business administration and secretarial sciences in a sense duplicated the services provided by privately owned insitutions. This plowing of new ground by public education raised several old questions. To what extent is government responsible for the education of its citizens? Who should bear the cost of education - the student and his family or a combination of public support and individual tuition payments? Should proprietary interests having established an interest in a particular endeavor be forced to compete with public institutions in the same arena?

Second, additional patterns of funding of vocational programs in secondary schools changed quite rapidly. In addition, the question as to level of content, types of programs, and breadth of offerings in secondary school vocational programs became a question which still remains unresolved. Interviews with secondary school personnel uncovered some feelings of competition with and dissatisfaction for the emphasis upon vocational education in area schools. It was argued by those interviewed that the community colleges would eventually be the beneficiaries of virtually all vocational funds thus transferring the burden of support of secondary programs to the local school districts. The complaint was also heard that college personnel had not effectuated effective articulation with secondary schools relative to types

and number of programs and cooperative relationships which would avoid unnecessary duplication of effort.

It is true that during the last four years funds for vocational education have begun to flow in ever-increasing amounts to the community colleges. A number of high school vocational programs have been physically transferred from high schools to campuses. Others have diminished in size or have been abandoned. It seems reasonable to assume that all, except limited exploratory vocational education, may be housed within community colleges in the future.

Third, there has been a long history of cooperation between the regents universities and Iowa's old junior colleges. The transfer of students from junior colleges to universities seems to follow well-fixed patterns established over many years. It appears, however, from our interviews, that the public universities have not clearly understood the broad ramifications and many opportunities implied by the educational missions spelled out by the legislature. The fact that the universities are considering the establishment of 5 regional extension centers which may or may not have any relationship, physical or otherwise, with community colleges, indicates a myopic view of the necessity for overall cooperative planning of higher education in the state.

Fourth, the impact of a whole new set of problems and needs generated by the establishment of these 15 institutions was seriously underestimated by state government. The establishment of 15 institutions almost simultaneously thrust a heavy burden upon the Department of Public Instruction. Personnel within the Department showed a willingness to respond to these new institutions, but they were handicapped by the continuing press of problems from other segments of education, lack of administrative regulations, long-range planning, and adequate numbers of personnel. Thus educators throughout the state have the impression that the activities of the Department of Public Instruction are a curious mix of laissez faire and authoritarianism.

Fifth, the decision of the legislature to establish area community colleges which would include existing public junior colleges, constituted a major change in educational policy. This shift had far-reaching ramifications in intra-institutional relationships. Previous to 1966, the state's junior colleges were rather traditional in their educational orientation. The primary emphasis of courses and programs was toward the first two years of the baccalaureate degree. There was a paucity of technical and vocational programs. Campuses within a number of area college districts continue to be either primarily liberal arts oriented or vocational-technical centers.

Last, the legistature did not seem to understand the all-inclusiveness of the educational objectives they set forth in the law for those institutions. Neither did they understand the volume of pent-up educational demands as evidenced by the growth in enrollment in these institutions between 1967 and 1969 (see Table 6),nor the costs necessary to meet these demands. This in not intended to be a criticism of the members of the legislature for their action is a very laudable recognition of the needs of the people they serve. Rather, this situation points up the dangers of establishing a new system of schools in the absence of long-range planning and a complete and well-documented master plan.

The introduction of a whole new system of institutions whose services must inevitably affect the traditional roles of secondary schools, private colleges, and regents universities has raised a phalanx of questions. It is important that some reasonable equilibrium in Iowa's educational system be restored.

Table 6

Fall Enrollments By Program
Full- and Part-Time*

	College Parallel		Technical	Vocational	Total Vocational-Technical		Grand Total
1967	10,860	71.3%	1137	3043	4380	28.7%	15,240
1968	10,775	64.6%	1808	4097	5905	35.4%	16,680
1969	11,130	61.2%	1912	5149	7061	38.8%	18,191

*DPI Report

Chapter Three

IOWA'S POPULATION AND LABOR FORCE[1]

Of the 2,775,000 individuals estimated living in Iowa, 256,401 or 9 percent of the total population have need for employment related assistance in Fiscal Year 1971. This was determined by estimating the Universe of Need for Manpower Services on Table 7. Of these 256,401 individuals, 116,390 or 45 percent are considered poor and 140,011 are non-poor.

Among the poor are 94,453 individuals who are unemployed and under-utilized disadvantaged. These disadvantaged amount to 37 percent of the total Universe of Need for manpower services, 10,000 are unemployed and 84,453 are under-utilized. The latter are individuals who are employed part time for economic reasons (5,889), employed full time but with family income at or below poverty levels (72,844) or individuals not in the labor market but who should be (5,740).

Other poor individuals who do not meet the qualifications of disadvantaged is estimated to be 21,937. Of the 140,611 non-poor, 60,112, or 23 percent are estimated to be near-poverty with all other non-poor at 79,899 or 31 percent.

One of the major problems in Iowa was brought out in the March 1970 edition of Iowa Farm Science, "The average 5 year employment figures for Iowa and the United States show about a 13 percent decrease in family labor. Hired labor decreased 11 percent between the periods 1957-61 and 1961-65 nationally. But, for Iowa,

1 - Chapter Three is taken in its entirety from Annual Manpower Report, Iowa Employment Security Commission, March 1970. Some portions of the report have been deleted.

TABLE 7

Universe of Need for Manpower Services
Fiscal Year 1971

State or Labor Area - State of Iowa

Base Period Used - 1969 Calendar Year

Item	Number of Individuals	
	Base Period	Planning Assumptions For FY 1971
	I	II
1. Total Universe of Need for Manpower Services (Number of different individuals in year)	256,401	256,401
a. Poor	116,390	116,390
(1) Disadvantaged	94,453	94,453
(2) Other poor	21,937	21,937
b. Non-poor	140,011	140,011
(1) Near-Poverty	60,112	60,112
(2) All other Non-Poor	79,899	79,899
2. Unemployed and Under-utilized Disadvantaged Total	94,453	94,453
a. Unemployed	10,000	10,000
	84,453	
b. Under-utilized	84,453	84,453
(1) Employed part-time for economic reasons	5,869	5,869
(2) Employed full-time but with family income at or below poverty level	72,844	72,844
(3) Individuals not in labor force but who should be.	5,740	5,740

only the family labor declined. There is need for full-time hired men many who can operate complicated machines, apply seeds, fertilizers and chemicals under exacting conditions and, in general, perform skilled jobs."

Area community colleges teaching vocational and technical courses are making strides in this type of education. Some of the other occupational categories offering a greater volume of job opportunities combined with good possibilities for advancement are: health, clerical, mechanics and repairmen, and engineering aids.

MDTA activities within the state during FY 1969 have contributed to assisting the disadvantaged and others. There were 1,834 persons enrolled or transferred into this type of training during the fiscal year. There were also 1,172 persons graduated from this program the balance are either enrolled at the end of the year, transferred to other programs or left the training programs.

Another program aiding in assisting the disadvantaged individual in 1969 was Basic NAB-JOBS through which 271 placements were made. Two other programs have been very helpful with 759 nonagricultural and agricultural placements being made through CEP and WIN.

The rate of unemployment for Iowa showed a small increase in 1969 going from 2.4 percent in 1968 to 2.6 percent in 1969. With prospects of a larger increase in 1970 as January 1970 rose to 3.4 percent which was the highest rate in January since 1964.

Economic Development and Outlook

Economic and business conditions remain quite good in Iowa as businessmen anticipate the decade of the 70's. The mood of most Iowan's might be best described as one of cautious optimism. Most informed persons anticipate a mild reduction during the first half of 1970 in the demand for industrial and consumer goods produced in Iowa. An increased demand for Iowa products is definitely

anticipated during the later half of 1970. Even though a slowing in activity is anticipated, many businessmen predict that the sales of manufactured products will surpass the 1969 levels. While increased sales will be welcomed, the prediction is that Iowa business profits will be lower than the profit levels of previous years. High interest rates, inflation and taxes are listed as causes for the foreseen slowing of economic activity during the first half of 1970.

Iowa experienced a dramatic economic change during the 1960's. During the last decade, new industry moving into Iowa created a better balanced economy. Agriculture is no longer the dominant industry but shares the responsibility for state growth with industries that manufacture everything from school buses for Alaskan children to electronic gear for men on the moon.

However, the basic stimulus of agriculture is still present even though its influence has been lessened by new or expanded industries. Many of the new or expanded industries sell their products to Iowa farmers or to farmers in surrounding states in the form of chemicals, agriculture equipment and services to the farming community. Livestock and grain purchased from the Iowa farmer are processed and distributed to consumers across the nation as well as throughout the world.

Industry growth is shown by the increase in annual average nonagricultural employment. In 1969 the estimated annual average was 879,600 wage and salary workers compared to 680,000 in 1960.

Iowa's geographical location, the availability of railroad and river transportation and easy access to interstate highways have been cited by industry as reasons for locating in Iowa. Another major economic stimulus for industry to locate in Iowa is the availability of financing through the issuing of municipal industrial bonds. Since enabling legislation in 1963, 27 bond issues have been approved. Seven of these bond issues have been for $5 million or more. More bond issues are expected to be approved in the future.

During 1969, 245 industrial developments took place in Iowa according to the Iowa Development Commission. Among these were 23 totally new firms and 37 new branch facilities. The remaining 185 were plant expansions or relocations. The value of these industrial developments is estimated at $209 million. These developments resulted in approximately 11,300 new or different jobs.

To supply the technical manpower needed by industry, the state along with local civic leaders has created area or community colleges. Approximately 98,000 persons were enrolled in post high school instruction on a full-time, part-time or adult education class basis at the end of 1969. A majority of them were enrolled in vocational-technical programs of instruction.

An estimated $26 million has been invested in the creation of these new schools. Some educators believe that these new vocational schools will have as great an effect on the development of the Iowa economy as did the creation of the original private and state colleges and universities.

Population and Labor Force Characteristics and Trends

The Iowa population has grown only slightly over the 2,758,000 recorded in the 1960 census. Iowa has only 17,000 more persons or a population total of 2,775,000 on July 1, 1968 according to State Vital Statistics estimates. (See Table 8).

The most significant change between 1960 and 1968 took place in the under five years of age group. A drop of almost 21 percent took place in this age group. During the 1960's, Iowa had 92,000 fewer births than during the 1950's. The birth control pill is most often mentioned as the main force.

Young people between ages 5 to 15 increased 7.1 percent. Persons age 18 through 44 decreased one-tenth of 1 percent which may have contributed slightly to the decline of the number of children under five. Persons in the 18-44 age group are more likely to migrate out of the state than any other age group.

Table 8

Estimates of the Total Resident Population, By Age:

July 1, 1968[1]

	Iowa			United States (000)		
	Amount	%	% Change from April 1, 1960	Amount	%	% Change from April 1, 1960
Under 5 years	243,000	8.8	-20.9	18,506	9.3	-8.9
5 to 17 years	729,000	26.3	7.1	52,272	26.2	19.1
18 to 44 years	880,000	31.7	-0.1	69,137	34.6	10.6
45 to 64 years	577,000	20.8	2.8	40,796	20.4	13.1
65 years and over	346,000	12.5	5.7	19,134	9.6	15.5
Total	2,775,000	100.0	0.6	199,846	100.0	11.4
Change: 1960 to 1968	+17,000			+20,523		
Components of Change:						
Birth:	458,000			32,680		
Death:	239,000			14,817		
Net Migration:						
Number:	-202,000			2,660		
Rate:	-7.3			+1.4		

1 - Population Estimates and Projection Series P-25.No.436, January 7, 1970. Pages 7,9,& 10.

Iowa does not follow the national population trends. As a whole the United States had 8.9 percent decline in persons under five years of age while the Iowa drop was 20.9 percent. Nationally, young people age 5-17 increased 19.1 percent while Iowa had only a 7.1 percent rise. A disparity of about 10 percent between Iowa and the Nation as a whole exists in the remaining age groups.

Older citizens have always been an important factor in the Iowa population structure. In 1960, Iowa had 11.0 percent of its population in the 65 or older age bracket, the largest percentage of any state. The overall United States average was 9.2 percent. According to the July 1, 1968 estimated total population, persons 65 and older made up 12.5 percent of the United States population. Florida took the lead for the highest percentage with 13.3 percent of its residents in this age bracket.

Iowa's annual average workforce has increased each year since 1962 up to the present estimated annual average workforce of 1,235,600 in 1969. This increase of 23,900 workers is due to the increase of nonagricultural wage and salary individuals. They increased from 686,400 in 1962 to 879,600 in 1969 for an increase of 193,200. Whereas agricultural employed workers decreased 59,500.

Net out-migration of Iowa residents has slowed greatly in the past three years after consistent heavy net out-migration over the past few decades. Between 1960 and 1965, Iowa with a net out-migration of 152,000 was one of the three leading states for out-migration. However, net out-migration between 1965 and 1968 was only 36,000.

The construction industry employment level has been advancing since 1962. However, the 1969 level on a month-by month basis was less favorable in the first half than in 1968.

Transportation, communication and public utilities employment has been holding close to the 50,000 mark during calendar years 1966, 1967 and 1968. A small gain in jobs is predicted by 1969 preliminary estimates.

Trade industry employment in Iowa has been increasing each year during the current business cycle that started in 1961. Average monthly employment reached 199,800 in 1968 and a further advance in the number of workers to 204,700 in calendar year 1969. Total estimated employment in December 1969 was 212,500, an all-time monthly record for Iowa since figures were first recorded in 1947. The finance, insurance and real estate industry has shown a relatively steady rise in employment with little month-to-month change over many years. This same pattern continued through 1969.

The service industry in Iowa has had a strong pattern over the years. Although the increase continued in 1969, the net gain was not as great as expected.

Government employment continued to increase in 1969. Government employees hit 170,000 for the first time in Iowa in February 1969. Employment figures on government workers were started in 1947.

Outlook for Fiscal Year 1971

The Iowa workforce should continue to grow and, in some areas, this growth will exceed the number of new job openings. In some instances, new entrants to the workforce and job seekers without required training may not qualify for available job openings.

The incresed labor market participation of women alone will add to the available workforce even if the Iowa population level remains relatively stable.

Total agricultural employment should continue to decline. However, the demand for hired farm workers will hold at the current level.

In making a tentative estimate of the Iowa workforce level in fiscal year 1971, the assumption was made that loss by net out-migration would probably continue and that the total estimated Iowa workforce would average 1,247,500 with 1,214,900 of these persons employed.

The expected net employment gain is about 10,700 between fiscal year 1970 and fiscal year 1971. Non-farm wage and salary employment would gain about 17,800 workers but this increase would be partly offset by expected job losses in other segments of the economy.

Manufacturing wage and salary employment should increase by 5,000 while non-manufacturing wage and salary excluding domestic workers would rise 12,800.

All estimates allow for some minor declines in the economy but may be too optimistic if major changes take place.

The manufacturing industry forecast for fiscal year 1971 assumes that most employment increases will occur in the durable goods industry segment even though it is currently showing some weakness. Both farm machinery manufacturing and electrical machinery manufacturing may show some employment gains. However, these gains will be below the recorded average from 1961 or when the present business cycle upswing began.

In the nondurable goods industry segment of manufacturing, employment should increase by about 1,000 with the printing and publishing industry and the chemical industry accounting for about half of the total gain.

Excluding domestic workers, the non-manufacturing industry probably will add about 12,800 wage and salary jobs. Service, government and trade should show the largest gains.

The mining industry should hold steady or show only minor employment changes.

Although the construction industry may post some gains, the increase in jobs will probably be small.

A small loss with a decline in railroad employment is expected in the transportation, communication and public utilities industry.

The trade industry, particularly the retail segment, may have a total job gain of about 3,100.

Nearly 1,000 will probably be added to the finance, insurance and real estate industry. During fiscal 1971, more than 4,000 more workers are predicted for the service industry.

Employment Developments and Outlook by Occupation

The "Occupational Shortages"[1] table shows occupations currently in demand and consistently hard to fill during the past year. These occupations were selected from the total listings in the Area Manpower Reviews prepared by Iowa's six Standard Metropolitan Statistical Areas (SMSA). This list was further augmented by other labor supply and demand information furnished by local offices.

Only occupations with a substantial, consistent demand were included. Excluded from the list were:

1. Seasonal jobs
2. Occupations unique to one particular area of Iowa
3. Substandard occupations (below average wages, poor working conditions, commission in lieu of salary, etc.)
4. Occupations requiring more than two years of post high school education.

1 - Note: The "Occupational Shortages" table is not shown in this report.

Anticipated Job Opportunities for Fiscal Year 1971

All jobs listed in the "Occupational Shortages" chart will continue to be shortage occupations during fiscal year 1971. Certain occupational categories offer a greater volume of job opportunities combined with good possibilities for advancement.

The most promising career fields are:

Health Occupations

Greatly increased demands for health services are stimulating rapid expansion of all types of health-care facilities with increased reliance on lesser skilled and sub-professional or technician workers. As existing jobs are refined and restructured even further to obtain optimum utilization of qualified workers, more entry level jobs will be available for disadvantaged workers.

Clerical Occupations

Demands in this career field will continue to rapidly increase in Iowa, particularly in metropolitan areas. High turnover plus continued expansion will insure consistent substantial demands. Many entry level clerical jobs are available to disadvantaged applicants who are taking or have completed clerical training courses that included basic education classes.

Mechanics and Repairmen

Strong demand continues although every area vocational school and many private trade schools offer courses in this career area. Job opportunities will be available for the disadvantaged if they are willing to work other than the straight 8-hour day, 5-day week. Practically every major service station now maintains full or part-time mechanics because of increased competition. These

job opportunities may involve evening and weekend work but they offer the chance to acquire skills that are in demand throughout Iowa and the nation.

Engineering Aids

A new Iowa program will provide job and training opportunities for many applicants who would normally not be hired. Cooperative planning by the Iowa Highway Commission, the Area School System and the Iowa Employment Security Commission has resulted in a program where workers are recruited and screened by the Employment Service, hired by the Highway Commission and immediately referred to an area vocational school for a 12-week training course. The Highway Commission pays all tuition costs plus salary during the training period. After successfully completing training, applicants are classified as highway engineering aids and begin work in various engineer-support positions such as Material Inspector I, Engineer Aid I or Planning Aid I. Equal opportunities are available to minority group members and women workers. Special efforts are made to locate and recruit disadvantaged applicants.

Long Term Outlooks

In February 1970, "Projected Manpower Needs for Iowa, 1970-1975" was published by the Research and Statistics Department of the Iowa Employment Security Commission. This report predicts the need for over 200,000 workers in Iowa between 1970 and 1975.

Growth will be responsible for 68,000 or one-third of these job opportunities. The remaining job opportunities will result from the need for persons to replace workers who withdraw from the workforce during this period.

Both clerical and service job openings will number 40,000 between 1970 and 1975. Professional, technical and related job opportunities will total slightly less than 40,000. Craftsmen and operatives will both need over 25,000 workers.

Approximately 17,000 additional sales workers and about 16,000 additional managers will also be needed. Job openings for laborers will total 3,500 and all these openings will result from the need to replace workers who will withdraw from the labor force.

Farm occupations will decline. The 13,000 farm replacement workers that will be needed fails to offset the loss of almost 24,000 agricultural jobs.

Characteristics of Individuals Other than Disadvantaged in Universe of Need for Manpower Services

An estimated 161,948 Iowa individuals other than the disadvantaged need manpower services. The category "poor" includes 21,937 individuals who are unemployed, under-utilized or not in the labor force although they should be but who are still not considered disadvantaged.

In the category "non-poor", are 140,011 Iowans including 60,112 individuals who are in the near-poverty category.

Their characteristics are similar to the disadvantaged. Some Indians living in Iowa and other Indians served by the Sioux City office of the Iowa State Employment Service fall within this category.

The Indian population in the Sioux City area is extremely mobile with the Winnebago and Omaha Indian Reservations in Nebraska only a short distance away. In 1969, the Sioux City office had 224 new applicants who were non-white and 1,170 non-farm and 32 farm job referrals were made. It is impossible to determine how many of these were Indians.

The Area CAMPS programs suggests that 1,500 out of the estimated 2,000 Indian population will need services. According to the March 6, 1970 issue of the Des Moines Register, 2,500 members of the Winnebago and Omaha tribes live in Nebraska about 20 miles south of Sioux City. The Iowa CAMPS Secretary indicates 15 percent or about 300 of these Indians will need manpower services.

During the 1960 Census, 465 Indians were also recorded in Tama County. In December 1969, the Bureau of Indian Affairs reported 595 Indians on the Tama Settlement. When consideration is given to the Indians who are living outside of the settlement, an additional 90 Indians are considered to be in need of service. This brings to 390 the number of Indians needing manpower services.

Employment of the older workers is also a major problem which is aggravated by their lower educational level. In 1960, a median of 8.8 years of school was completed by Iowans in the 45 to 54 age group. All older age groups had even less education.[1]

Many of these individuals are displaced farm workers or former farmers. Many farmers and farm workers have been replaced in the past years by the rapidly changing technology. As farm modernization continues, the displacement of farm operations will continued. The number of farmers and farm workers will decrease by approximately 24,000 between 1970 and 1975, according to "Projected Manpower Needs for Iowa 1970-1975."

The movement toward larger, more efficient farms has drastically reduced the requirement for farmers and farm operators. Although the effect on farm laborers is not as strong, a downward trend still persists in this occupational field. A large percentage of these individuals do not have adequate skills or education for industrial employment. A substantial effort is needed to aid these persons in making a smooth transition from farm to industry. Frequently, these workers are reluctant to migrate to the larger cities where the most numerous job opportunities exist.

Iowa had some 640 migrant workers during 1969 compared to 1,000 in 1968. Non-workers were estimated at 275 during 1969 compared to 515 in 1968. The peak number of migratory workers was estimated at 300 during September 1969.

1 - Source: Table 103, U. S. Census of Population, 1960.

The main decrease in migrant employment took place in the Muscatine area. Approximately 43 percent of the identified migratory workers came directly from and returned to their home State of Texas after one period of employment.

Barriers to Employment of the Disadvantaged

In early 1969, a survey of 440 trainees showed barriers to employment occurring 623 times. Lack of education was the most prevalent barrier. This barrier was recorded 411 times and accounted for 66 percent of the occurrences. Personal habits accounted for 12 percent of the barriers to employment while "age too young" and health were each recorded 6 percent of the time. "Age too old" was listed as a barrier 3 percent of the time. Transportation, conviction and child care were barriers in less than two percent of the occurrences.

The lack of job opportunities in rural Iowa is probably one of the state's greatest employment barriers. The sale of groceries, clothing and other items has become more and more concentrated in county seats and large cities. Sufficient trade no longer exists to keep many small businesses operating in small Iowa communities.

Chapter Four

STUDENTS AND STUDENT SERVICES

Students in Iowa's community colleges have characteristics quite similar to those of students nationally. Various dimensions of students' abilities, backgrounds, and aspirations have been measured by the American College Testing (ACT) Program. These data were supplied by ACT, and national comparisons were drawn from Your College Freshmen.

The measured ability of Iowa students as shown in Table 9 is quite similar to that found in the national sample. There are slightly fewer students with extremely high scores than are found in the national statistics. There are also fewer with very low scores. As one would expect, the majority of students (72 percent) fall in the middle range of test scores.

The high school grade point averages of students in Iowa tend to be somewhat lower than the national sample (see Table 10). The mean, or average grade point average, for Iowa students was 2.33, while nationally it was 2.58. The bulk of Iowa students were in the B-C categories (92 percent). The distribution of both test scores and high school grade point averages supports the position that the community colleges are serving students who might not otherwise be admitted to four-year institutions. These data also point to the fact that the colleges are maintaining an open admissions policy in a broad spectrum of curricula.

TABLE 9

Percentage of Students In
Various Test Score Intervals*

TEST SCORES	IOWA	NATIONAL
26-36	11	14
21-25	35	33
16-20	37	32
1-15	17	21
Mean:	19.9	19.7

* Your College Freshmen, Table 1.5

TABLE 10

Percentage of Students in Various
High Schools Grade Average Categories*

GRADE POINT AVERAGE	IOWA	NATIONAL
3.5 - 4.0 (A)	5	14
2.5 - 3.4 (B)	37	45
1.5 - 2.4 (C)	55	38
0.5 - 1.4 (D)	4	3
0.0 - 0.4 (F)	0	0
Mean:	2.33	2.58

* Your College Freshmen, Table 1.7

As one would expect, the educational majors chosen by students (Table 11) include a high percentage of undecided, teaching, and business administration. This is a typical pattern both within and without the state.

Table 12 shows the aspirations of students as to level of education. When these data are related to Table 13, one immediately gets the picture that these students are primarily vocationally oriented and are using the community college as their escalator up the occupational ladder. Substantially more individuals saw their educational programs terminating with two-years or less of college. Thirty-one percent fell into this category as compared to 14 percent on the national scene.

Students in these institutions tend to come from families of modest means (Table 14). They are, therefore, dependent upon income from part-time work, scholarships, and loans to finance their educational plans (Tables 15 and 16). Seventy-two percent came from families with incomes of less than $15,000 per year. Fifty-three percent came from families with incomes of less than $10,000. Seventy-four percent expected to work part-time while in college, and 56 percent expected to borrow money sometime furing their college years. Half of the students expected to apply for scholarship aid.

As one would expect, 81 percent of all students came from high school graduating classes of less than 400. This, of course, reflects the excessive number of high schools in the state.

TABLE 11

Distribution of Proposed Educational Majors*
(In Percentages)

	MEN	WOMEN	TOTAL
Undecided	24	18	22
Education	13	26	18
Business-Finance	14	15	15
Arts and Humanities	6	11	8
Social Science-Religion	5	11	7
Health	3	12	6
Agriculture-Forestry	10	0	6
Engineering	8	0	5
Trade and Industrial	8	0	5
Scientific	5	2	4
Political, Persuasion	5	3	4
Some Other Field	1	2	1

* Your College Freshmen, Table 2.1

TABLE 12

Educational Plans - Degree Sought*
(In Percentages)

	IOWA	NATIONAL
High School Diploma	1	1
Vocational or Technical Program (Less than two years)	6	3
Junior College Degree	24	10
Bachelor's or Equivalent	49	47
One or Two Years Grad. or Professional Study (MA, MBA)	14	23
Doctor of Philosophy (Ph.D.)	2	5
Doctor of Medicine or Dental Surgery (M.D., or D.D.S.)	1	4
Bachelor of Laws (L.L.B.)	1	2
Bachelor of Divinity (B.D.)	0	0
Other	3	5

* Your College Freshmen, Table 2.4

TABLE 13

Importance of Four Types of College Goals*
(In Percentages)

Iowa Students

SCORE	ACADEMIC	VOCATIONAL	SOCIAL	NON-CONVENTIONAL
		TYPE OF GOAL		
9	5	23	5	4
8	11	25	8	8
7	19	21	13	13
6	27	16	21	19
5	19	8	19	19
4	10	4	16	17
3	5	2	12	10
2	2	0	4	6
1	0	0	2	3
0	0	0	0	1
Mean:	5.9	7.2	5.3	5.2
		INTERPRETATION		
8 or 9 Essential	16	48	13	12
5, 6, or 7 Important	65	45	53	51
2, 3, or 4 Desirable	17	6	32	33
0 or 1 Not Important		0	2	4

* Your College Freshmen, Table 2.5

TABLE 14

Estimated Family Income*
(In Percentages)

	IOWA			NATIONAL		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Less than $3,000 per year	3	3	3	4	5	4
$3,000 to $4,999	9	10	9	9	10	10
$5,000 to $7,499	23	17	21	22	18	20
$7,500 to $9,999	19	13	17	17	12	15
$10,000 to $14,999	19	11	16	19	14	16
$15,000 t0 $19,999	4	2	3	5	4	4
$20,000 to $24,999	1	1	1	2	1	2
$25,000 and over	2	1	1	3	2	2
Consider this confidential	4	4	4	4	5	4
Do not know	17	37	25	15	31	22

* Your College Freshmen, Table 6.4

TABLE 15

Part-Time Work Expectations*
(In Percentages)

AMOUNT OF WORK	MEN	WOMEN	TOTAL
None	23	31	26
1-9 Hours Per Week	17	22	19
10-19 Hours Per Week	35	34	35
20-29 Hours Per Week	18	11	15
30 or More Hours	7	2	5

* Your College Freshmen, Table 3.3

TABLE 16

Scholarship and Loan Plans*
(In Percentage)

Do you expect to apply for a loan
to help meet college expenses?

	MEN	WOMEN	TOTAL
Yes, all through college	27	34	30
Yes, but not first year	27	24	26
Probably never	46	42	45

Do you expect to apply for a scholarship
to help meet college expenses?

	MEN	WOMEN	TOTAL
Yes, all through college	29	34	31
Yes, but not first year	20	17	19
Probably never	51	49	50

* Your College Freshmen, Table 3.5

TABLE 17

Size of High School Graduating Class*
(In Percentages)

	MEN	WOMEN	TOTAL
Fewer than 23	3	3	3
25-99	39	37	39
100-399	38	40	39
400 or More	19	20	19

* Your College Freshmen, Table 6.9

Attitudes of Students

One of the purposes of this study was to analyze the attitudes of students enrolled in vocational and technical courses, to determine their specific reactions to the institutions of which they were a part. Until recent years the attention of educators has been focused primarily upon the attitudes of legislators, the general public, and the college faculty. Although this has not been universally true, students generally have been the last to be asked to evaluate their own educational experiences.

Responses of students to the interviewers were uniformly favorable. Admittedly, there were some complaints about the food service, the lack of student campus life, and limited campus facilities and buildings. Students generally held their colleges in high esteem.

They were generally pleased with the strong personal interest shown in them by faculty and counselors. They felt they received individual attention when needed. They were highly complimentary of the equipment and materials available to them in their classes. They also approved the variety of vocational programs available to the student body. Any institution or group of institutions in the United States would be fortunate to have such excellent rapport with its students. The positive responses emulating from these individuals was a gratifying experience to the consultants, and should be viewed with pride by the citizens of Iowa.

The institutional study conducted by Iowa Central Community College provided additional dimensions to this area of concern (Table 18).

TABLE 18

Student Attitudes Toward Iowa Central Community College
(In Percentages)

	EXCELLENT	GOOD	AVERAGE	FAIR	POOR	NO RESPONSE
View of Instructional Aspects	14.4	52.3	22.1	4.9	1.5	4.6
Library Resources	18.4	47.9	20.3	5.6	2.0	5.6
Management of Academic Affairs	17.1	44.6	22.0	6.7	3.9	5.4
Aid in Helping Students Solve Their Problems	19.4	37.9	18.9	10.3	7.9	5.3
Student Support of College Activities (Excluding Athletics)	5.1	17.6	26.2	20.2	24.2	6.5
Encouragement of Individual Initiative, Creativity, and Independent Thinking	6.8	34.4	34.3	9.6	5.5	9.5
Opportunities for All-Round Development of the Individual	8.7	37.5	3.5	9.3	3.4	9.6
Reputation of the College	19.6	42.9	16.8	5.1	2.3	10.1

Recruitment of Students

The colleges have been quite aggressive in their recruitment of students. They have a wide variety of publications which are comparable in quality to those nationally and are distributed broadly in the areas being served. The colleges have attempted to reach citizens having quite different educational needs. The transfer of students from secondary schools to traditional college parallel programs has been well established for many years. The broadening of the purposes of community colleges in 1965 provided opportunities and resources for the education and training of individuals of all ages. The colleges have obviously been willing to serve individuals needing basic education, specific occupational preparation, as well as preprofessional training. The colleges are to be congratulated, particularly on their efforts on behalf of the under-educated, unemployed, and under-employed.

There is some indication that recruitment of students into appropriate programs could and should be improved. There is a persistent tendency among parents and some secondary school personnel to push high school students toward traditional collegiate studies. Student attrition rates within the state and nationally clearly indicate that both the individual student and society would be better served if from 20 to 25 percent of the students taking the baccalaureate degree chose instead a vocational or technical program.

The colleges have attempted to tailor their admissions policies and procedures to the various requirements of the programs they provide. This is as it should be. The community colleges are attempting to serve the broadest kind of clientele. Their "academic" programs must be equivalent to the freshman and sophomore years in accredited four-year colleges and universities. This is absolutely essential if the academic hours students transfer toward the baccalaureate degree are to be treated as acceptable coinage by the receiving institution. The use of such variables as graduation from high school, the high

school transcript, and the American College Testing Program standardized tests are individually and collectively accepted nationally as legitimate tools for the admission and placement of students in academic programs. As long as community colleges are providing the remedial courses which will qualify individuals to meet minimum admissions standards, they are adequately performing their function in this area.

Admission to technical programs (e.g., engineering, nursing) which lead to an associate degree is usually based upon the same general criteria required in academic programs. In nursing this is due in part to licensing requirements. In other fields it seems to be based upon the assumption that the occupations for which these individuals are being prepared require relatively sophisticated social and intellectual ability.

Admission to vocational programs is generally tailored to specific job requirements as defined by advisory committees, direct information about the occupations, and the knowledge and opinion of qualified professional personnel in these fields. The General Aptitude Test Battery is used for admission to both vocational and technical programs. There are, in addition, special tests for data processing programmers, the Programmers Aptitude Test, and for practical nursing students who must complete the Psychological Services Bureau Aptitude Test for Practical Nurses. The Otis Quick Score IQ Test and the Nelson Denny Reading Test are also used.

Individuals taking special basic education courses, the general education development course for the high school equivalency certificate, and those in special job training and retraining programs must take a variety of tests, as well as work with qualified counselors in order to effectuate proper program placement.

The American College Testing Program is developing a new career planning profile which might prove to be a very useful source of information about students as they enter vocational-technical divisions of the colleges.

Other Guidance Services

The observations of the interviewers and the review of information about the colleges would indicate that the handling of counseling, financial aid, and student activities is generally satisfactory. There seems to be a strong personal commitment on the part of the counseling personnel and most teaching faculty to the need for continuing close involvement with students. In some instances, there is need for additional professional personnel, for these colleges are responsible for an extremely diverse student population, academically, economically, and socially.

Athletics

The development of traditional athletic programs is a questionable enterprise. The recruitment of out-of-state students on the basis of athletic prowess is contrary to the stated objectives ennunciated by community colleges that they exist to serve the needs of the people of the region they serve. Further, it is questionable whether public funds should be used for athletics. If, as these colleges state in their printed materials, they are unique, there seems to be little logical justification for the development of athletic programs in the pattern of older tradition-oriented institutions. The development of physical skills and important physical activities might well be better achieved through the organization of student athletic clubs and intramural programs which would reach the majority of students and would be funded out of student activity fees.

Students and Occupational Information

Interviews with students, faculty, and employers demonstrated clearly that secondary school students are simply not well briefed on opportunities in vocational education programs or knowledgeable about occupational requirements and labor force needs. Unfortunately, Iowa suffers from the same problem that plagues the rest of the nation, namely, counselors and teachers in all levels of education educated in a scholastic atmosphere in the academic fields. Such personal life experience tends to bias a large part of the professional staff, whether it be in elementary schools, high schools, area schools, or colleges and universities. In effect, such biases make it difficult for the student to obtain information and experience about the adult world of work, and about the possible lines of entry through further education. This is a serious problem in the state and both college administrators and faculty members should move aggressively to find viable solutions.

One method of acquainting secondary school students with educational occupational opportunity is through an on-campus orientation program. Students need real experience with the procedures, materials, and equipment used in a variety of occupations. Such a program might include a five-week summer session in which students might spend several days in various shops and laboratories. Young men might work in a machine shop, auto body shop, auto welding, blueprint reading, drafting, and electronics. A similar program can be organized for young women. This kind of direct orientation would give students better personal insight as well as essential information about a variety of occupations with which they would not otherwise be acquainted.

The area colleges might collectively develop occupational information on videotapes, cassetes, motion pictures, or slides which could be circulated among high schools in each area. Such materials could include direct visual and auditory explanations of

occupations. They might also be designed so that they would explain the actual activities in various vocational and technical training programs.

The colleges might also set up orientation programs for high school teachers and counselors so that they, too, would be familiar with what actually takes place in vocational classes and the relationship of these programs to occupations in the local economy and elsewhere.

Guidance Services for the Handicapped

There is clear evidence that the colleges are providing specialized guidance services to the handicapped. First, they have organized special courses and programs to accommodate the needs of the educationally and economically disadvantaged. Second, they have made special arrangements to work with individuals who qualify for vocational rehabilitation support. Third, in a number of institutions they have established branch guidance and instructional centers designed to reach into the immediate neighborhood. These efforts include all age groups.

Two or three examples illustrate the outreach of community colleges. In Area Ten (Cedar Rapids), over 700 individuals have graduated from the adult high school. Classes of all types are offered in over fifty locations in the seven counties. One-seventh of the students at Area Seven (Waterloo) are receiving vocational rehabilitation assistance. The colleges enroll a large number of part-time students who have family and job responsibilities. They have also set up basic education courses to help individuals overcome deficiencies in language and mathematical skills.

Ottumwa has an imaginative program located in an occupational orientation center. Individuals lacking basic education or who are uncertain about occupational choice receive special counseling, training in basic academic skills, industrial skills, and business skills. The center provides special psychological evaluations

and individual counseling designed primarily for the disadvantaged. The college has attempted to train or upgrade a significant number of individuals who would otherwise be unemployable. In 1969-70, a special program for school dropouts had 70 students enrolled. The college cooperates closely with the local crime commission in a cooperative program for juvenile delinquency control. It has organized a cooperative program for retraining women on Aid to Dependent Children (ADC), and it is working closely with another state agency on social services.

This is an example of the kind of flexibility and adaptation to individual needs which should characterize all community colleges in the state. The consultants found that special services similar to those in Ottumwa were being provided by all of the new instructional centers. Such services are generally not given or are quite limited on the campuses of former junior colleges.

Follow-Up Studies of Students

Research designed to determine the activities of individuals completing vocational education courses are few in number. This is due in part to the short history of area school vocational programs, and the fact that the colleges have tended to concentrate on the planning and implementation of new programs rather than making extensive reviews of institutional output. There are, however, some illustrative examples of what has happened to graduates.

In Calamar, Area 1, 306 former students were studied. It was found that 94 percent did not continue their education beyond the community college, indicating that they were interested in vocational education and immediate employment. Ninety-two percent secured employment in less than 90 days after completing their school work. Fifty percent of them took jobs in their home towns, and 88 percent were employed within Iowa. Almost two-thirds (63 percent) were employed within Area 1.

The students indicated the salaries they received were commensurate with their expectations, and 61 percent had remained with their original employer two years after leaving the school. Eighty percent were employed in jobs for which they were prepared, and 78 percent felt they were adequately trained for the requirements of their positions. Ninety-eight percent indicated they would recommend the community college and its program to others.

Another example of the movement of vocational graduates into Iowa's labor force is provided by Iowa Central Community College (Fort Dodge). Table 19 shows that 75.4 percent of those graduating in 1967-68 stayed in Area 5, and an additional 12.3 percent remained in other areas of Iowa. There was some movement of graduates out of Area 5, but a larger percentage remained within the state (92.2 percent).

It is also apparent that these students are finding employment in the occupations for which they were trained (Table 20). 92.6 percent indicated this result in 1968, 89.7 percent did so in 1969.

The Hawkeye Institute of Technology also has conducted a study of its graduates. Narrative from the report is quoted below and supporting Tables (21 to 23) follow the text.

> Hawkeye graduated 451 students from the day trade and technical division in the period from July 1, 1968 to June 30, 1969. The number of graduates continuing their education is 10, in military service 34, not employed 16, status unknown 53 and deceased 2. Deducting the total of these graduates who were not employed for various reasons or could not be contacted, the remainder is 336 or 74.50% of the graduates who are working.
>
> Of the 10 or 2.22% continuing their education, 7 or 1.55% re-enrolled at H.I.T.; one or .22% entered a private business school and 2 or .44% are going to another area school. Thirty-four

TABLE 19

Location of Graduate Employment*

LOCATION	1967-1968 PERCENTAGE	1968-1969 NUMBER	1968-1969 PERCENTAGE
Area V (Nine-County Area)	75.4	133	69.0
Iowa (Other than Area V)	12.3	45	23.2
Total of Graduates Employed in Iowa:	87.7	178	92.2
Outside of Iowa	12.3	15	7.8
Totals of Graduates Employed:	100.0	193	100.0

TABLE 20

Graduate Employment*

AREA OF EMPLOYMENT	1967-1968 PERCENTAGE	1968-1969 NUMBER	1968-1969 PERCENTAGE
Occupation for which trained	92.6	173	89.7
Related Occupation for which trained	3.8	9	4.6
Unrelated Occupation	3.6	11	5.7
Total of Employed Graduates	100.0	193	100.0

* _____ Status Study Report Revised, Fort Dodge: Iowa Central Community College, May 1970, p. 120.

or 7.54% of our graduates are in the military service. Of the sixteen or 3.55% not employed, ten or 2.22% were seeking jobs, 3 or .66% were not employed because of marriage. Fifty-two or 11.53% of the group could not be located at this particular time and an attempt will be made to reach them later. Finally, 2 or .44% are deceased.

The majority of Hawkeye graduates stayed in Area VII and Iowa. Of the 336 graduates working, 242 or 72.02% are working in Area VII. There were 302 or 89.88% of the 336 graduates working who have remained in Iowa and only 34 or 10.12% have left the state. It is of interest to note that the flow of grads out of the state will depend upon the employment needs in the immediate area at graduation time. Some of those leaving will no doubt return after gaining experience in their particular skill as in the case with several grads already. Others have indicated the desire to return at a later time.

There are 271 or 80.65% of the total number of working grads in occupations for which they were trained. Only 39 or 11.61% are working in related occupations for which they were trained and 26 or 7.74% were working in an occupation not related to the area of their training.

When the men grads are compared to the women grads as to the nature of employment we find that 88.03% of the women and 75.26% of the men are working in occupations for which they were trained. Then 9.15% of the women and 13.40% of the men are working in related occupations for which they were trained. Finally, 2.82% of the women and 11.34% of the men are working in occupations not related to the area for which they were trained.

This study shows that 42.79% of the total number of grads are women, and 57.21% are men. Of the total number of grads working, 42.2% are women and 57.73% are men. There are 73.57% of the total women grads working and 75.19% of the total men group working.

A summary of the starting wages for the various programs is shown in Table . The three salary ranges given for each graduating group include the low, the average, and the high. The overall range of starting salaries was from $50.00 or less to $201.00 or over a week.

This report was current as of October 15, 1969, but because of the high mobility of the American people a number of changes could be made already.[1]

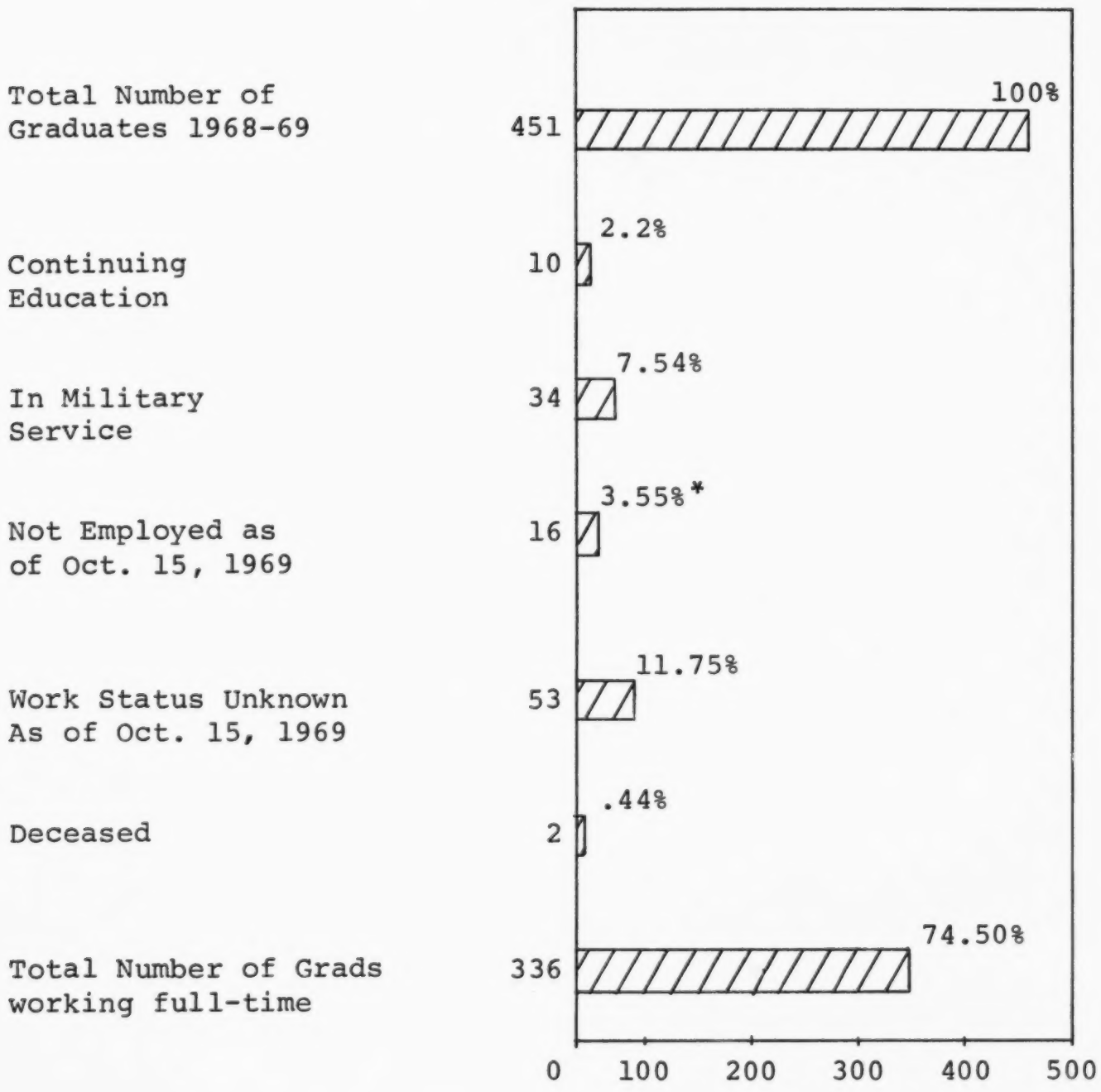
Similar results are revealed for Cedar Rapids, Area 10.

	NUMBER	PERCENT
In occupation for which trained	196	90.7
In a related occupation	11	5.1
In an unrelated occupation	9	4.2

1 - Placement and Follow-Up Report for 1968-69 Graduates, Waterloo, Iowa: Hawkeye Institute of Technology, pp. 4-6.

TABLE 21

Hawkeye Grads Follow-Up
July 1, 1968 to June 30, 1969
As of 11-15-69



* Not employed for personal reasons, such as marriage, lack of desire, looking for a special job, etc.

TABLE 22

Nature of Employment, Hawkeye Women and Men Compared

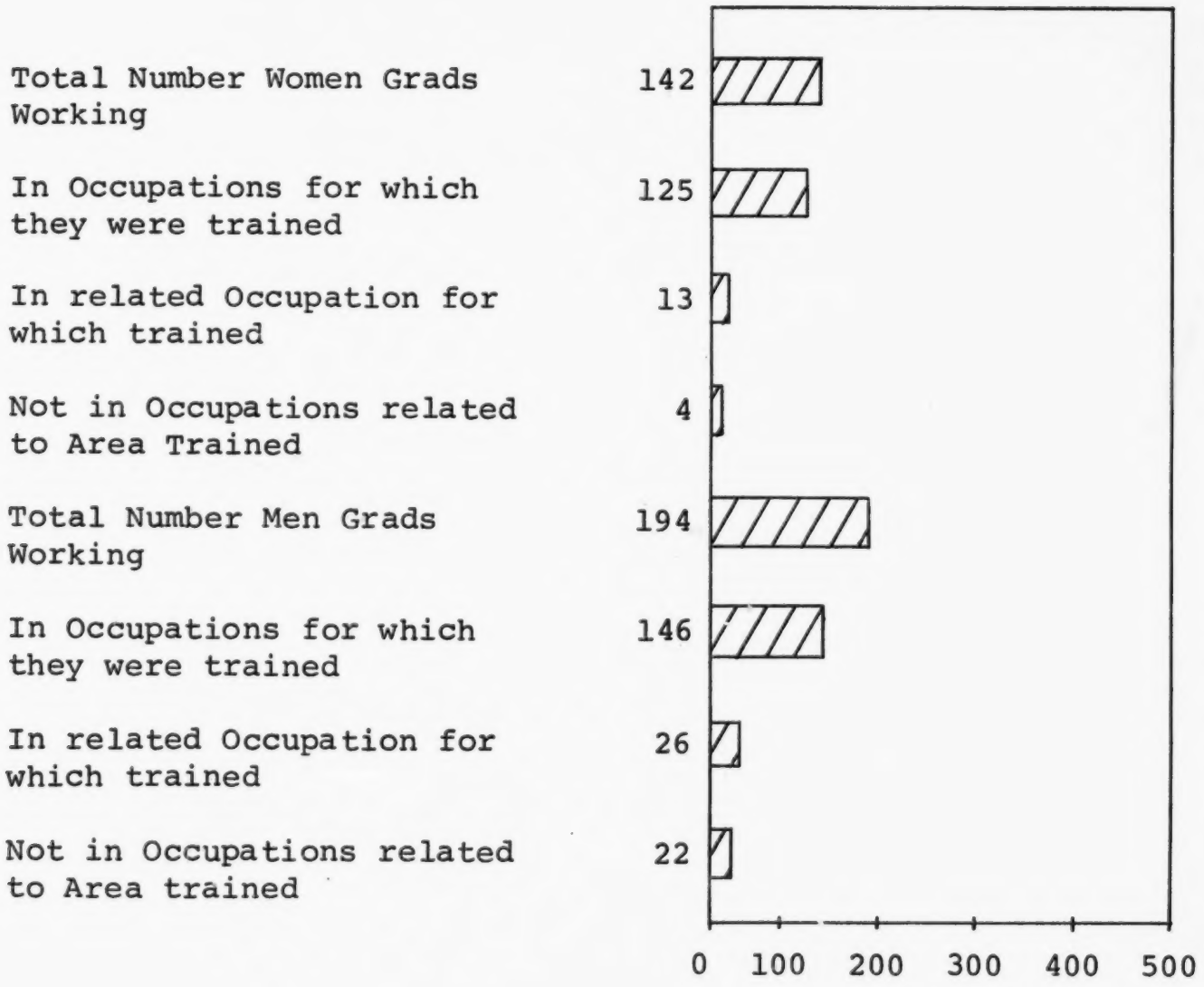


TABLE 23

Summary of Weekly Starting Wages
of Hawkeye Grads (Before Deduction)

	Dollar Range of Starting Weekly Salaries		
	Low	Average	High
Ag. Power & Equipment	$ 51-75	$ 76-100	$101-125
Aircraft Mechanics	76-100	101-125	201-over
Auto Body Repair	101-125	125-126	201-over
Auto Mechanics	51-75	76-100	176-200
Business Office - Clerial	51-75	76-100	126-150
Commercial Art	50-less	76-100	126-150
Custodians	51-75	75-76	76-100
Mechanical Drafting	76-100	126-150	151-175
Electronic Technology	101-125	126-150	176-200
Fashion & Textiles	51-75	76-100	101-125
Interior Decorating & Design	50-less	76-100	101-125
Machine Specialist	51-75	101-125	126-150
Machinist General	101-125	126-150	201-over
Machinist Tool & Die	76-100	126-150	176-200
Mechanical Technology	76-100	126-150	151-175
Medical Lab Assistant	76-100	101-125	126-150
Medical Clerical	50-less	51-75	76-100
Nurse Aide	50-less	51-75	76-100
Photography	101-125	125-126	126-150
Police Science	101-125	126-150	151-175
Practical Nurse	76-100	101-125	126-150
Tailoring	51-75	76-100	101-125
Welding	51-75	101-125	151-175

Chapter Five

CURRICULA AND PROGRAMS

A primary objective of this study was to determine whether the area community colleges are carrying out the mandate of the legislature as stated in S. F. 616, Sixty-Second General Assembly, with particular emphasis upon vocational and technical education programs. In order to put vocational education into an institutional context, it is necessary to touch upon continuing education and college parallel programs. Less formal, but equally important, cooperative relations with other agencies will also be considered.

Vocational and Technical Programs

Field interviews and available data indicate that the colleges are fulfilling their obligations in these fields. There were 7,081 students reported in technical and vocational fields. There were 279 vocational and technical programs available, varying in length from a few weeks to twenty-four months. Table 24 shows the programs available in the fall of 1969.

TABLE 24

Programs Available In The Area Schools

PROGRAM	DIPLOMA	A.A.S. DEGREE	CERTIFICATE
Auto Body	X		
Auto Mechanics	X	X	
Bookkeeping, Accounting	X		
Building Maintenance Management	X		
Carpentry	X		
Cosmetology	X		
Department Store Marketing	X		
Electrician	X		
Farm Implements	X		
General Clerical	X		
Interior Decoration	X		
Practical Nursing	X		
Secretarial	X		
Welding	X		
Production	X		
Agriculture	X		
Refrigeration, Air Conditioning Service	X		
Agricultural, Business Marketing	X		
Agricultural and Light Industrial Equipment	X		
Automotive Service	X		
Farm Management	X		
Feed and Fertilizer	X		
Drafting	X	X	
O.E. Accounting	X		
O.E. Secretarial	X		
Power Lineman	X		
Radio and TV Service	X		
Machine Shop	X		
Dental Assistant	X		
Aircraft Mechanics	X		
Architectural Drafting	X		
Mechanical Drafting	X		
Medical Laboratory Assistant	X		
Nurse Aide	X		X
Medical Clerical	X		
General Machinist	X		
Operating Room Technician	X		

TABLE 24, continued

PROGRAM	DIPLOMA	A.A.S. DEGREE	CERTIFICATE
Floral Culture	X		
Machinist	X		
Legal Secretary	X		
Ornamental Horticulture	X		
Occupational Therapy Assistant	X		
Child Care	X		
Diesel Mechanic	X		
Industrial Marketing	X		
Medical Laboratory Assistant	X		
Printing	X		
Tool and Die	X		
Job Shop	X		
Animal Science	X		
Band Instrument Repair	X		
Piano Tuning	X		
Office Machine Repairman	X		
Medical Secretary	X		
Graphic Arts	X		
Carpentry and Building Trades	X		
Air Traffic Control	X		
Airframe and PP Mechanic	X		
Commercial Cook	X		
Hardware Marketing	X		
Hotel and Motel Management	X		
Agri-Business		X	
Architectural Design Technology		X	
Building Construction Technology		X	
Farm Management Technology		X	
Electronics Technology		X	
Mechanical Technology		X	
Nursing Associate Degree		X	
Agricultural Machinery Design Technology		X	
Industrial Electronics		X	
Retail Marketing		X	
Fashion Merchandising		X	
Food Market Management		X	
Department Store Manager		X	
Petroleum Marketing		X	
Drafting and Design Technology		X	
Animal Science		X	

TABLE 24, continued

PROGRAM	DIPLOMA	A.A.S. DEGREE	CERTIFICATE
Commercial Art		X	
Electronics		X	
Fashion and Textile		X	
Mechanical Technology		X	
Photography		X	
Police Science		X	
Mechanical Design		X	
Mechanical Production		X	
Data Programming		X	
Electronic Engineering Technology		X	
Mechanical Engineering Technology		X	
Computer Programming Aid		X	
Professional Secretary		X	
Clerical			X
Secretarial			X
Marine and Small Engines			X
Variety Store Marketing			X
Keypunch Operator			X
Elevator Farm Supply			X
Farm Power Mechanics			X
Executive Secretary			X
Machine Shop			X
Medical Assistant			X
Service Station			X
Meat Cutting			X

The numbers of vocational-technical courses offered (Table 25) vary from 32 in Cedar Rapids to 6 in Marshalltown. Estherville, Mason City, Creston and Marshalltown have the least number of different programs. Burlington has 13 and Sheldon 19. Nine colleges have 21 or more programs.

TABLE 25

Number of Vocational-Technical
Courses Offered 1969-70

AREA SCHOOL	COURSES	AREA SCHOOL	COURSES
Cedar Rapids	32	Council Bluffs	21
Waterloo	26	Sheldon	19
Bettendorf	25	Burlington	13
Ottumwa	24	Estherville	9
Ankeny	24	Mason City	8
Calmar	22	Creston	7
Sioux City	22	Marshalltown	6
Fort Dodge	21		

Two specific institutional examples (Des Moines Area Community College, Table 26, and Iowa Western Community College, Table 27) demonstrate the breadth of vocational and technical offerings available in response to the need for career education.

TABLE 26

Programs Offered By Des Moines Area Community College*

TITLE	LENGTH (QUARTERS)	DEGREE-DIPLOMA CERTIFICATE
Business		
Data Processing Programmer	7	AAS
Computer Operator	4	D
Key Punch	6 weeks	C
Clerical	4	D
Secretarial	4	D
Accounting	4	D
Industrial Marketing	7	D
Department Store Marketing	7	D
Agri-Business	7	D
Health Sciences		
Practical Nursing	4	D
Operating Room Technicians	4	D
Medical Assistants	4	D
Medical Laboratory Assistants	4	D
Dental Assistants	4	D
Nurse Aide	2 weeks	C
Industry and Technology		
Auto Mechanics	7	D
Auto Parts Specialist	4	D
Diesel Mechanics	7	D
Conditioned Air	4	D
Building Trades	3	D
Electronics Maintenance	4	D
Industrial Electronics	7	AAS
Tool and Die Making	7	D
Job Shop Machinist	4	D
Mechanical Technology	7	AAS
Mechanical Drafting	4	D

* Status Study, Des Moines Area Community College, Ankeny, Iowa, April 1970, pp. 12-13.

TABLE 26, continued

TITLE	LENGTH (QUARTERS)	DEGREE-DIPLOMA CERTIFICATE
Industry and Technology (Cont'd)		
Architectural Drafting	4	D
Printing	7	D
Welding	2	D
Social Sciences		
Child Care	4	D

The following additional career education programs will be available to students enrolling the fall quarter, 1970.

Secretarial Science	7 quarters	AAS
Accounting Specialist	7	AAS
Health Care Management	7	AAS
Commercial Art	7	D

TABLE 27

Programs Offered By Iowa Western Community College*

CAREER PROGRAM	AWARD	PROGRAM LENGTH	FIRST YEAR OFFERED
Clerical Receptionist	Diploma	6 mo.	1967
Data Processing			
Programmer	Diploma	15 mo.	1969
Programmer Analyst	A.A.S.	18 mo.	1969
Secretarial	Diploma	9 mo.	1968
Associate Degree Nursing	A.A.S.	24 mo.	1969
Dental Assistant	Diploma	12 mo.	1967
Medical Assistant	Diploma	12 mo.	1967
Operating Room Technician	Diploma	12 mo.	1968
Practical Nursing	Diploma	12 mo.	1967
Nurse Aide/Orderly	Certificate	1 mo.	1969
Electronic Technology			
Communications	A.A.S.	18 mo.	1969
Industrial	A.A.S.	18 mo.	1968
Automotive Mechanics	Diploma	18 mo.	1967
Aviation Mechanics	Diploma	18 mo.	1967
Farm Equipment Maintenance	Diploma	21 mo.	1967
Graphic Arts	Diploma	18 mo.	1967
Machine Operator	Diploma	6 mo.	1968

A Status Study of the Council Bluffs Campus, Iowa Western Community College, April, 1970, pp. 47-48.

TABLE 27, continued

CAREER PROGRAM(Cont'd)	AWARD	PROGRAM LENGTH	FIRST YEAR OFFERED
General Machinist	Diploma	12 mo.	1968
Tool and Die Maker	Diploma	21 mo.	1968
Welding	Diploma	12 mo.	1968
Law Enforcement	A.A.	18 mo.	1969
Farm Operation and Management	Diploma	24 mo.	Sept. 1970
Bus. Admin. Career Program	A.A.	18 mo.	Sept. 1970
Comm. Service Assoc.	A.A.	18 mo.	Sept. 1970

Enrollments by programs vary widely. Data processing and licensed practical nursing continue to be the most popular with students. Secretarial science, auto mechanics, and drafting are also well received. As would be expected, young men tend to move into manufacturing and mechanical occupations; women move into the health services, child care, and clerical occupations. Des Moines Area Community College enrollments are reasonably illustrative of enrollments in various fields (see Table 28).

The report of this college also shows substantial effort in adult education, including basic education for the high school equivalency, adult basic education, cooperative work with the Office of Economic Opportunity, and a variety of skill training programs for adults.

TABLE 28

Enrollment Report
Des Moines Area Community College
1969-70

VOCATIONAL-TECHNICAL FULL-TIME COURSES	CURRENT ENROLLMENT	COMPLETING COURSES SINCE JULY 1	CUMULATIVE ENROLLMENT
Agri-Business Operation	31		33
Architectural Drafting	15	10	34
Auto Mechanics	61		85
Auto Parts Specialist	10		12
Bookkeeping/Accounting	19	16	44
Building Trades	6		14
Child Care	11		14
Clerical	13	16	33
Conditioned Air	13		14
Data Processing	87	10	128
Dental Assistant	23	16	45
Diesel Mechanics	52		63
Electronics Maintenance	11	13	34
Industrial Marketing	23		29
Department Store Marketing	26		33
*Key Punch	0	66	71
Mechanical Drafting	12	8	34
Mechanical Technology	5		14
Medical Assistant	22	19	43
Medical Lab Assistant	15	10	31
Operating Room Technician	17	16	40
Practical Nursing (Ames)	48	25	74
Practical Nursing (Des Moines)	91		106
Printing	13		28
Secretarial Science	28	28	78
Tool & Die Making	16		26
Welding	10	15	35
Job Shop Machinist	0	5	13
Industrial Electronics	27		45
*Part-Time program			
TOTAL FULL-TIME VOCATIONAL	705	273	1253
VOCATIONAL-TECHNICAL SHORT COURSES			
Active	301		
Completed since July		2124	2425
TOTAL VOCATIONAL-TECHNICAL SHORT COURSES	301	2124	2425

TABLE 28 continued

MDTA - DES MOINES SKILL CENTER	CURRENT ENROLLMENT	COMPLETING COURSES SINCE JULY 1	CUMULATIVE ENROLLMENT
Alteration Tailoring	9	12	26
Auto Body	12	17	31
Auto Service Station Mechanic	21	33	66
Building Maintenance	13	28	51
Business Occupation	86	86	234
Combination Welder	23	44	93
Distributive Occupations	13	22	40
Food Service	15	27	57
Production Machine Operator	16	22	57
Meat Cutting	10	14	34
Human Engineering Laboratory	5	250	300
TOTAL MDTA	223	555	986
ADULT EDUCATION			
General Adult - Local Schools	295	6,889	7,184
High School Equivalency - OEO	596	378	974
GED Testing		410	410
New Careers - H.S. Equivalency	28	15	43
Pre-Clerical - Evening	10	57	67
Adult Basic Education	1,985	15	2,000
Concentrated Employment Program	55	348	403
General Adult - OEO	30	28	58
Adult High School Diploma	1,435	85	1,520
WIN	60	41	101
TOTAL ADULT EDUCATION	4,494	3,266	12,760
GENERAL EDUCATION			
Ankeny Campus:			
Law Enforcement			
Full-time	19		19
Part-time	115		115
College Transfer			
Full-time	39		39
Part-time	58		58
Boone Campus	343		410
TOTAL GENERAL EDUCATION	574		641
GRAND TOTAL	6,297	11,218	18,065

Curriculum Planning

Ideally, educational decision making should be based upon the application of research models specifically designed to deal systematically with input and output variables and intra-institutional processes. It is equally important that such techniques be applied to all educational services, career education, college parallel programs, continuing education, and guidance services. In this section of the report the primary concern is the efficacy of curriculum planning. Our attention will be focused primarily upon the vocational-technical area.

The community college serving the Des Moines area has developed a pattern for the planning and implementation of curricula. The pattern is applied to career education, adult and continuing education, and general education. Present and projected programs offered by the college have been and are being developed in the following manner.

1. A comprehensive skill needs survey conducted by the college.

2. Community-wide surveys conducted in many of the local school districts within the college boundaries.

3. Skill needs surveys conducted within the specific businesses and industries in the nine county area.

4. Statistical evidence presented by the Department of Public Instruction, derived from 1960 census data, of the number of persons who had not completed high school.

5. Research studies conducted by graduate students employed by the college as administrative interns, while completing degrees at Iowa State University.

6. Employment trends in rural and urban areas as indicated by the Employment Security Commission.

7. Needs of disadvantaged persons as indicated by various CAP agencies within the district.

8. Extensive consultation with advisory committees constituted in each career program area.

The need for very close cooperation with the Iowa Employment Security Commission becomes apparent when one considers the complexity of matching educational programs with manpower projections. This problem has been pointed up by Shea. ". . . vocational educators and others are interested in drawing interns from manpower projections concerning the quantity and type of educational services which they might provide to target clientele. In order to make wise decisions in this area, educators need to know a great deal about (1) the interests, aspirations, abilities, and aptitudes of students and trainees; (2) performance requirements in various occupations; (3) employer hiring standards; (4) occupational entry barriers, such as discrimination and licensing; and (5) existing sources of manpower."[1]

An excellent example of cooperation between two community colleges to determine the educational needs of their clienteles is contained in An Inter-State Study of Educational Needs in the Illinois-Iowa Quad-City Area. The study was done by two citizens' committees, one from each state. They represented business, industry, and government. Under their direction a survey director and two local field directors actually implemented the study. Its purpose was to ascertain the educational needs of students in the Iowa-Illinois Quad-City area, and to determine how the two community colleges, Black Hawk and Eastern Iowa Community College, could cooperate to provide "post-high school level programs of various types to serve the total ecological area."

1 - John R. Shea, "Occupational Education and Training Requirements: Relationships Essential for Planning State Vocational Education," in Manpower Information for Vocational Education Planning, Robert C. Young (ed.), Columbus, Ohio: The Center for Vocational and Technical Education, November 1969, p. 75.

The use of community advisory committees occurred in all institutions; however, there seemed to be substantial variations in the effectiveness of community college relationships. Some advisory committees met only sporadically, while others met at regular intervals, had strong community support and participation and effective relationships with the college. Community advisory committees are a means through which colleges can not only improve their community relations, but also increase the relevance of their educational offerings in the future. More important is the necessity for systematic and well-planned analyses by lay advisory committees of all career programs, of the adequacy of graduates as employees, and of the systematic readjustment of programs to changing occupational requirements. The publication Organization and Effective Use of Advisory Committees[1] provides an excellent guide as to the organization and use of advisory committees.

One of the consistent deficiencies found by the consultants was the lack of a systematic plan for the phase-out of career education programs which have served their usefulness and whose retention is not justificable. As the patterns of occupations change so do requirements which should be imbedded in individual courses and complete programs. In some instances, colleges will fill the demand for personnel in a few years. In others, student interest will decline to the point that a program may become uneconomical. In the relatively new area vocational schools, the emphasis has been upon how to establish new and different programs. As yet, little or no attention has been given to the procedures for eliminating programs in a systematic fashion.

To rectify this situation it is suggested that the colleges collectively develop criteria designed to substantiate the need for mounting new programs, testing the labor market periodically to justify their continuation, and to develop objective criteria which will signal the need for program elimination.

Sam W. King, Organization and Effective Use of Advisory Committees, Washington, D.C.: Department of Health, Education, and Welfare, 1960. 75 pp.

It must be recognized that all formal organizations move from flexibility to rigidity. Thus we find in government, business, and education not only administrative structures which are inconsistent with the concepts and practices of modern management, but we also see the rather mindless and rote continuation of organizational processes which have little or no currnet social or economic value. Institutions of education are no exception to this rule. The problem here is that the community colleges should avoid endless accrual of responsibilities. Rather, the issue which must be joined is the adjustment of community college programs and those in existing public and private institutions to the broad economic and social needs of the state. Thus one of the critical questions which must be faced is how broad a spectrum of services can these colleges be expected to provide, and are there limits to the variety of individuals they can serve?

Models for Curriculum Construction

Several of the community colleges have developed models to be used in curriculum construction. An example is the one used by the Des Moines Area Community College (see Figure 1). The application of the model makes very good sense, both for programs in career education and general education.

FIGURE 1

Curriculum Construction Model

Des Moines Area Community College

		GENERAL EDUCATION CORE										
		ORIENTATION	COMMUNICATIONS	SOCIAL SCIENCE & HUMANITIES	HUMAN RELATIONS	PE	SCIENCE	MATH	RELATED SCIENCE & MATH	OCCUPATION OR SPECIAL CONCENTRATION	ELECTIVES	TOTAL QUARTER HOURS
Level 4	Associate of Arts		9	11	5	3	8			30	35	96
	Associate of Science		9	9	5	3	4	4		30	35	96
Level 3	Associate of Applied Science	R	6	6	5		5	5	20	49		96

		GENERAL RELATED										
Level 2	Diploma (6-7 Quarters)	R	3-6	3-6	3-9		0-3	0-3	20	77-83	0-9	96-112
	Diploma (4 Quarters)	R	3		3				12	43	0	64
	Diploma (3 Quarters)	R	3		I				10	32	0	48
	Diploma (2 Quarters)	R	0-3		I				6	23-26	0	32
Level 1	Certificate (6 weeks or less)	R								0-16	0	0-16

R - required, no credit granted

I - integrated in other regular instructions

Status Study, Des Moines Area Community College
Ankeny, Iowa, April, 1970. P. 57.

This curriculum construction model could be made even more useful if it were matched with a similar model showing the specific competencies required in entry level jobs in various fields. The two models in concert would then point up the necessity for various kinds of course content and, specifically, how such content relates to job requirements. Properly developed, these interrelated documents would show clearly the necessity for minimal levels of competence as they relate to the expectations of the employer.

A third step in making the curriculum model more useful would be to extend the relationship of content and job entry qualifications to more generalized occupational clusters. The purpose of this extension would be to demonstrate clearly basic competencies related to entry jobs and additional educational requirements for vertical or horizontal mobility of the individual among related jobs. Since the community colleges are dealing with students seeking occupational entry and adults seeking retaining and upgrading, such a design could prove to be an invaluable tool in long-range educational planning.

High School Vocational Programs

As pointed out earlier, the authorization of community colleges altered the educational roles and funding patterns of vocational programs on the secondary school level (see Table 29). To date, there has not been a specific redefinition of roles of secondary school vocational education as compared with community college vocational education. Admittedly, to make such redefinitions is a complex task; however, they are essential if reasonable economy and efficacy of vocational education is to be achieved in the state.

The proportional share of vocational funds for secondary schools has declined since 1966. These funds have found their way into the community colleges. In some instances, community colleges have duplicated existing secondary school programs and, concurrently, secondary schools have resisted the orderly transfer of some programs

TABLE 29

Summary of Reimbursement to Local High School Districts and Merged Area Schools for Career Education*

	Local High School District	Merged Area Schools
1960	1,013,362	--
1961	1,095,801	--
1962	1,044,100	--
1963	1,187,249	--
1964	1,177,845	--
1965	2,680,684	--
1966	3,324,807	--
1967	2,175,796	5,669,052
1968	2,528,882	5,485,966
1969	2,769,162	8,059,951
1970[1]	2,190,971	7,279,076

* Compiled from DPI reports.
1 Projected

from the high schools to area schools. In the absence of a comprehensive policy statement defining the responsibilities of these two segments of Iowa's educational system, there have been instances of competition and duplication between the two levels of education. On the other hand, many secondary schools transferred some of the responsibility for vocational education to the community college.

A survey of principals, counselors, and career education department chairmen in 56 high schools showed that these individuals thought career education in secondary schools would develop a greater emphasis in both career orientation and specific skill education. Although a mix of general and vocational education seems reasonable in high schools having several thousand or more students, it does not appear to be economically feasible when an entire school district, K-12, has a population of less than 2,000 to 3,000. (In passing, it is noted that 333 school districts in the state had 1,168 or fewer students, the lowest being 175 in the entire district).

Respondents were consistent in indicating that the major factor inhibiting the achievement of the schools' goals and objectives in career education was in the area of finance, facilities and equipment. Like all other segments of education, secondary schools are finding it difficult to generate adequate financial resources to support career education. This problem will undoubtedly continue as long as 436 school districts have student populations of less than 6,084.

Ideally, role definitions and responsibilities should be studied and spelled out by existing state advisory committees. There should be clear delineation between the levels of vocational education provided by secondary schools as compared to area schools. Duplication of content of programs should be eliminated. Community college vocational programs should be built so that the complexity of course content recognizes previous

experiences of vocational education students in high schools. Secondary school programs should be reexamined to determine whether or not their thrust should be essentially occupational orientation, or geared to developing occupational entry skills for students. Depending upon the field, such programs might be either, or, in a few instances, a combination of both.

The development and application of the curriculum construction model mentioned above would provide a long step forward in the proper articulation of career programs in high schools and community colleges. It appears to the consultants, and not unexpectedly so, that career education in the secondary schools and its counterpart in the community colleges have never really been coordinated on either the state or local level. While there are isolated instances of close institutional cooperation, the general pattern throughout the state has been the continuation or development of career programs without regard for the careful adjustment of both systems to rapidly changing conditions. It is imperative that Iowa define the roles and functions of career education at the secondary school level, and that such definitions are carefully coordinated with present and projected offerings at the community colleges. Such articulation is obviously a two-way street, for there are a number of outstanding high school career education programs in some of the larger school districts.

Resistance to change, defense of existing institutional practices, and competition between high schools and community colleges exist in a number of geographic areas. Too often the attitude seems to be one of protecting a program or building a new program without regard for the other fellow. The emphasis should be upon the needs of students for orientation and understanding of occupations, for the development of individual skills, and for the qualifications for a chosen occupation, rather than institutional aggrandizement. The answers to these complex problems will depend upon

the quality of leadership exerted by the Department of Public Instruction and a willingness of institutions, both high schools and community colleges, to cooperate in the development of role definitions and educational missions which will best serve the young people and adults in the state.

Adult and Continuing Education

The growth of enrollment and number of different educational programs available to adults has been quite rapid since 1966. In the first year there were 669 equated full-time adult enrollments (reimbursable). It is projected by the Department of Public Instruction that there will be 5,330 adult enrollments in 1970-71. The adult education divisions of the colleges offer part-time programs to adults within the following categories:

Adult basic education--education that is equivalent to an 8th grade education.

High school completion--education that includes adult high school courses and preparation for the high school equivalency examination.

Continuing and general education--education that includes a variety of experiences for adults of a pre-occupational, avocational, or recreational nature.

Vocational-technical education--education that includes part-time supplemental programs for employed adults to upgrade occupational skills and short-term preparatory programs of less than one term in length to prepare students for employment.

Adult college parallel programs--evening colleg parallel courses for part-time students.

These educational opportunities are seriously needed by the citizens of the state. With the decline in agriculture and the need for skilled personnel in new industries, Iowa simply must take a very serious and responsible view of adult training and retraining. The labor force is rapidly shifting away from the use of unskilled personnel. Adults having less than an 8th grade education are becoming less and less employable. Even those who have not completed high school are finding it difficult to secure and hold jobs. Courses in career education are directly applicable to upgrading of adult skills, and college parallel courses have both cultural and occupational values. If Iowa's population continues to grow older and remains stable as to overall numbers, adult education and retraining may become the most important function of community colleges.

The community colleges have generally reacted in a very positive way to the need for educational opportunities for adults. The effort would benefit from more systematic state planning and close cooperation between individual colleges and the Employment Security Commission.

One of the issues raised in the conduct of this study was whether avocational and recreational courses were necessary and if so, were they being financed solely from student charges. The consultants found that community colleges have budgeted the income and expenditures for adult avocational and recreational courses separately from other funds. The direct costs of such programs have come from student fees. If an insufficient number of students enroll in a particular course, it is cancelled. It should be pointed out, however, that in some instances fixed institutional and overhead costs are not calculated as a part of the expenses for these activities. Therefore, there may be some indirect subsidy of such courses. The consultants believe that such minor overhead costs do not constitute an evasion of the intent of the legislature, nor do they constitute a serious drain upon the financial resources which should be used for career programs, college parallel course, and guidance services.

Transition of Students from High School to Community College

It would be a simple matter for any consultant to be critical of educationl institutions as young as Iowa's community colleges. They have, however, grasped many opportunities for service to the people they serve. They have missed some opportunities, but they are still too young and untried to embark immediately upon additional educational innovations. Closer cooperation with high schools, in order to provide a unity of appropriate educational experiences for students, is an idea which should be studied and implemented as soon as possible. An overall impression one gets of the colleges is that they have been so busy organizing themselves and surviving in the face of widespread criticisms that they have had little time for innovative planning. Unfortunately, this has tended to encourage high schools, community colleges, public and private universities to remain in discreet units which, in turn, tends to inhibit the rather free movement of students from system to system as his individual needs dictate.

An ideal educational system permits the student to move as rapidly as his capabilities will permit. There is nothing magic about 12 years of public education, 4 years of college, or a particular number of years for the development of competence in an occupation. Movement of an individual from one segment of the educational system to another should be based upon his readiness for new and different experiences. This applies equally to the intellectually gifted and to those who profit least from the conventional academic or vocational curricula in secondary schools.

Greater flexibility in the progress of students should be made possible. Those who are intellectually gifted should have an opportunity either to enter post-high school education early, or with advanced standing. This should apply to community colleges, private colleges, and regents universities. If it is more convenient for such students to enroll in college parallel programs in community colleges, such flexibility should be made available to them.

Another group which deserves special study and consideration is the potential dropout. Perhaps arrangements could be made for these individuals to enter a career program in community colleges and to enter the labor force at a relatively early age.

Arrangements such as these would require a change in the funding pattern now being used. The colleges would, of necessity, have to receive income from state and local sources, as well as appropriate student tuition payments. The additional cost to the state might, however, be less than that required to train the individual as an adult sometime in the future.

Instructional Television

Iowa has an excellent opportunity to lead the rest of the nation in the development of a coordinated and effective educational television network cooperatively developed and operated by regents universities, private colleges, and community colleges. This brief report cannot discuss all the potentialities and ramifications of such a system. It can, however, comment on some notable benefits which can be derived from the use of this new resource in relation to career education, college parallel courses, and adult education.

Instructional centers and community colleges are strategically located geographically. Relatively small repeater stations or trasmitters placed on a number of campuses could cover virtually the entire population of the state. The imaginative placement and use of these facilities would make it possible for the colleges to serve virtually everyone interested in post-high school education. The effectiveness of this media has been amply demonstrated by Chicago junior colleges over an extended number of years.

All but laboratory experiences could be taught through television. Related instruction might be presented several days a week, and students might then attend laboratories and quiz sections on the campus. Examinations would be given on the campus itself. Much

of the material contained in the college parallel courses is readily adaptable to television presentation. The media could also be used to enrich standard high school courses.

Not only are there many opportunities for the improvement of instruction through this media, but there might be significant economic benefits to taxpayers and students. If a program of interchange of students between high schools and community colleges actually takes place, the cost of transporting such students must be considered. Also the expense of constructing expensive campus buildings must be considered.

Teaching materials should be cooperatively developed by secondary school, community college, and college and university personnel. There is no justification for the "handing down" of teaching materials from one level of education to another. Perhaps the best indication of the trend toward cooperative relationships between high schools and colleges on the national scene is demonstrated by the American College Testing Program and the Educational Testing Service.

Both organizations involve secondary school and college personnel in the development of materials to be used for guidance and student assessment. Both organizations have recognized that if there is to be meaningful psychological linkage between the secondary school and the college, both professional groups must contribute to the development of testing materials and the patterns of course content. They have both utilized various kinds of committees and commissions on test development and curriculum construction. The work of these groups has induced changes in both testing and curricula which were long overdue.

Related Instruction

Related instruction in vocational and technical education includes components of traditional academic fields, such as English or communications, mathematics,

the physical sciences, and the social sciences. One of the questions posed for this study was whether or not related instruction is relevant to the needs of career education students. A parallel question was whether or not related instruction should be taught by individuals prepared in academic fields or by certified vocational teachers.

Field interviews with both professionals and laymen found opinions regarding these matters varying from one extreme to the other. Some expressed the fear that community colleges would be converted into liberal arts institutions and thought the new campuses whould restrict themselves to career and adult education. They felt the mere presence of college parallel programs would tend to move the institutional thrust from career education to an overblown acadmic emphasis. They were also concerned that if academically-qualified personnel were responsible for related instruction in communications, mathematics, physical sciences, and social sciences, course patterns and contents would shift rapidly away from an emphasis upon preparation for occupations.

At the other extreme were those who insisted that related instruction should be an essential part of the preparation of career-oriented students. They felt that instructors in related fields should be chosen on the basis of competence and experience in those fields. A number of employers raised the issue that the colleges should not only prepare students for initial employment, but that they should also provide programs for subsequent upgrading and promotion. Some employers pointed out the danger of training students so that they almost inevitably end up in dead-end jobs. These concerns must be resolved if Iowa is to have a viable community college system.

The problems that underlie these concerns can be attacked in a number of ways. First, one must consider the personnel responsible for the activities, policy and procedures in these institutions. The local boards of trustees have the responsibility to define the

missions of these institutions, and to make certain that these missions are achieved. In order to do this they need to employ professionally-qualified administrators and faculty members who have a strong commitment to career education. It is particularly important that personnel with a traditional academic preparation have this perspective, for if they see the community college as a stepping stone to college and university teaching they might well have a dilatorious effect upon the development of career programs. The situation need not be assumed to be entirely hopeless, however, for many teachers understand the need for variations in educational opportunities for young people and adults.

Of equal importance for the development and strengthening of career education is counseling personnel in high schools and community colleges to have a knowledge and understanding of career education and the world of work. If their predelictions run strongly toward a more academic as opposed to a more pragmatic orientation toward individual and societal needs, many students will continue to make erroneous choices of educational programs and occupational careers.

Finally, if progress is to be made in this area of concern, tradition must be cast aside and different teaching methodologies and the design of individual courses and of complete programs must be implemented. Essentially, career education should consist of three overlapping elements: the background and theory of the occupation, specific skills and competencies in a particular job or cluster of jobs, and general education in community living, communications, personal living, and the sociology of work. These elements should be organized around predetermined behavioral objectives in modules which will give each student an increasing level of competence as he completes each discreet unit. Some of this is already being done in some colleges. The plan should be developed fully and applied in all programs.

Employer Reactions to Career Education Graduates

With few exceptions, reactions of employers to graduates of career education programs in community colleges were positive. The responses of hospital administrators and nursing service supervisors to graduates of licensed practical nurse programs were universally enthusiastic throughout the state. They also seemed pleased with the associate degree nursing program as a source of needed professional personnel. Employers of all kinds, from small auto garages and auto-body shops to large corporations, felt that graduates of these programs constituted an invaluable addition to Iowa's labor force.

That community colleges have not generally established effective lines of communication with representatives of organized labor seems to be a problem. At issue is can and should the graduate of an appropriate program be given credit of a year or more on his apprenticeship in a particular trade or skill area? Discussions with representatives of labor indicated a willingness to cooperate with the colleges in every way possible; however, they indicated a desire to have the college administration or faculty make the first overture. Recognizing the multitude of problems these colleges have had to solve in a brief four years, it is understandable that they have not established working relationships with all groups concerned with the programs provided and the skilled individuals produced.

The community colleges have responded well to the educational needs of the under-educated, unemployed, and disadvantaged. For example, Des Moines Area Community College has cooperative relationships with the following programs: Greater Opportunity (a four-county O.E.O. agency), Concentrated Employment Program, Work Incentive Program, Division of Rehabilitation, Education, and Services, Manpower Development and Training Act, National Alliance of Businessmen, and Model Cities. The programs carried on by these organizations include orientation and assessment, adult basic education, high

school equivalency, and skill training. The college has established a branch office in Des Moines in order to bring continuing educational services to low-income and disadvantaged adults. It opened a second branch office in the Model Cities area of Des Moines in May, 1970. Educational offerings in these branches are provided both day and night.

Table 30 shows information on the status of individuals who terminated vocational-technical programs and who are now continuing their education. A great majority of these students are continuing their education in Iowa. Over 61 percent of the students who are continuing their education are either pursuing education in an extension of their original program or in a related program.

TABLE 30

Continuing Education Status of Those Students Who Terminated Vocational-Technical Programs as of October 15, 1969*

Type of training	Full-time		Part-time		Total	
	In Iowa	Out of Iowa	In Iowa	Out of Iowa	In Iowa	Out of Iowa
Extension of original program	82	13	15	4	97	17
Related vocational program	23	5	10	5	33	10
Related technical program	21	2	2	8	23	10
Not related to original program	84	15	16	3	100	18
Totals	210	35	43	20	253	55

Data on Iowa's Area Schools and Public Junior Colleges 1968-69, State Department of Public Instruction, p. 95.

Further evidence of the effectiveness of community colleges to October 15, 1969 appears in Table 31. These data show the employment status of students who terminated vocational-technical programs. Over 87 percent of the students who reported they were employed full time were employed in Iowa. Of those students reporting they were not employed, only 16 percent indicated they were actually seeking employment. The largest single reason given for unemployment was active military service.

Table 31

EMPLOYMENT STATUS OF STUDENTS TERMINATING AREA SCHOOL VOCATIONAL-TECHNICAL PROGRAMS AS OF OCTOBER 15, 1969*

Employment status	Men		Women		Total	
	Completed	Not completed	Completed	Not completed	Completed	Not completed
Employed						
Full-time in Iowa	873	279	942	99	1,815	378
Full-time out of Iowa	169	20	93	9	262	29
Part-time in Iowa	24	14	112	14	136	28
Part-time out of Iowa	5	1	10	1	15	2
Total employed	1,071	314	1,157	123	2,228	437
Not Employed						
Seeking employment	14	7	57	7	71	14
Not seeking employment	260	227	108	78	368	305
Total not employed	274	234	165	85	439	319
Reason Unemployed						
Illness	2	5	12	6	14	11
Physical disability	5	6	4	1	9	7
Lack of skills	1	4	12	4	13	8
In educational program	37	74	14	23	51	97
Active military	193	119	-	-	193	119
Marraige	-	-	73	40	73	40
No desire to work	13	10	22	8	35	18
Total unemployed	251	218	137	82	388	300
Employed Not Known	86	219	184	84	270	303

* Data On Iowa's Area School and Public Junior Colleges 1968-69, State Department of Public Instructions. P. 95.

Chapter Six

PROFESSIONAL STAFF

There were 1,242 professional employees in the community colleges in 1968-69. Twenty percent, or 259, did not have a college degree. Less than 1 percent, or 11, had an associate degree; and approximately 80 percent had a bachelor's or higher degree. In terms of the programs offered by these colleges, one can conclude that the faculties are well prepared for their responsibility. Personnel without degrees are engaged in vocational areas that require a different kind of training and experience in which instances it is, indeed, appropriate not to have a traditional academic degree.

TABLE 32

Highest Degree Earned by Personnel*

Type of Degree	Male	Female	Total
None	184	75	259
Associate	8	3	11
Bachelor	166	95	261
Master	520	145	665
Specialist	16	2	18
Doctor	5	3	8

*Data on Iowa's Area Schools and Public Junior Colleges 1968-69, State Department of Public Instruction, p. 71.

Faculty and Administrative Salaries

The average salaries of faculty members is generally lower than the national median. Comparisons of Tables 33 and 34 seem to indicate that the average salaries range from $9,666 to $11,879 and cluster near the national median for public institutions of $10,850. This is not a totally accurate picture, however, for the national median is based upon the academic year. Average salaries for Iowa, as computed by the Department of Public Instruction, include all administrators, counselors, and faculty members. Contracts for these individuals vary from 180 to 240 contract days per year. The salaries paid administrators also tend to skew the average to a higher level. It is interesting to note that the highest average salary is paid to the smallest faculty.

In general, administrative salaries are competitive with those paid in other states. There does not exist, however, at the present time, significant differences in administrative salaries in relatively small institutions as compared to larger colleges.

Salaries for administrative officers tend to cluster around the national median (see Table 35). One can conclude that given reasonable progression of increases in future years, Iowa can compete successfully for administrative talent.

The legal limitations of president's salaries to a range of $17,000 to $25,000 per annum seems to be arbitrary and unrealistic. As the economy continues to develop in the immediate future, this limitation will have to be raised or the state will tend to lose its best qualified leadership, and needed increases in the salaries of subordinate administrators and faculty will be inhibited.

TABLE 33

Academic-Year Salaries Paid to Full-Time Faculty
In 2-Year Institutions, 1969-70*

Group of Institutions	First Quartile	Median	Third Quartile	Highest	Number of Institutions	Number of Faculty
Public Institutions	$9,106	$10,850	$13,089	$19,000+	531	39,983
Enrolling 2,000 or more .	9,944	11,866	14,011	19,000+	139	22,902
Enrolling 1,000-1,999 ...	8,809	10,231	12,205	19,000+	128	8,947
Enrolling less than 1,000	8,086	9,164	10,550	19,000+	264	8,134

*Salaries in Higher Education, Washington, D.C.: National Education Association, 1970

TABLE 34

Characteristics of Full-Time Faculty*

Area	No. of Faculty	Salary	Average Age	Average Years Experience	Average Yrs. Experience This College	Average Semester Hrs. Completed
1	48	$10,201	40	6	1	124
2	107	11,406	45	14	6	169
3	65	10,826	37	8	3	142
4	29	11,879	40	7	2	107
5	159	10,814	42	13	6	174
6	129	10,448	37	10	4	175
7	76	10,472	39	4	3	80
9	139	10,792	39	10	5	157
10	164	11,794	37	6	2	146
11	143	10,589	40	6	2	128
12	50	10,977	43	5	3	91
13	113	9,666	39	8	3	130
14	42	10,148	40	9	3	143
15	111	10,923	38	7	4	114
16	89	10,504	42	12	5	163

*DPI Report

TABLE 35

Range of Salaries Paid Professional Administrative Staff in 256 Public Junior Colleges with Total Headcount Enrollment under 5,000 1969-70

Position	Range of Salaries Paid		
	Minimum	Median	Maximum
Chief Executive Officer (Pres.)	$12,000	$22,500	$38,038
Chief Academic Officer	10,000	17,690	27,815
Registrar	3,600	12,000	20,608
Director of Admissions	6,840	12,504	20,847
Head Librarian	5,906	12,085	21,620
Director, Community Services	3,300	14,000	21,945
Chief Business Officer	5,644	14,268	25,260
Director, Personnel Services	5,244	13,500	23,734
Dir./Dean, Nursing	7,709	14,400	20,153
Dir./Dean, Technology	10,220	14,200	20,200
Dir./Dean, Vocational Education	6,793	15,000	25,020

Faculty Characteristics

Looking at college faculties from a slightly different point of view (see Table 34), one finds that the size of the professional staffs varies from 29 in Area IV to 164 in Area X.

Generally speaking, the faculties are made of comparatively young people. The lowest average ages appear in Areas IV and X, and the highest in Area II. As to experience, Areas II, V, VI, IX, and XVI have the highest averages. It should be kept in mind, of course, that the average age of the faculty members and their average years of experience reflect the consolidation of existing junior colleges with new area community colleges. Thus, faculty in junior colleges which may have existed for 20 or more years would tend to show a higher average number of years of experience and in the average age of the faculty members.

These statistics also show the average semester hours completed. This index has meaning for individuals teaching college parallel and technical programs. It is not particularly significant in those fields requiring informal types of training and a number of years of experience in an occupation.

Student and Community Reactions to Faculty

The field interviews gave the general impression that the teaching and counseling personnel were dedicated and competent. Students, employers, and college administrators were, with few exceptions, complimentary of the qualifications and professional commitment these individuals had to the diverse objectives of the colleges being studied. Apparently, both counselors and teachers are willing to spend the necessary time to work with students on their problems, individually and in groups. Not only were the faculties complimented for their attitudes and activities, but for their mastery of subject matter as well.

Professional Development of Personnel

There is no consistent plan or pattern for the professional development of faculty personnel in the community colleges. Institutional arrangements vary from providing virtually nothing to subsidizing the tuition for college courses, both under-graduate and graduate. It is important that professionals teaching both college parallel and vocational-technical courses maintain a high level of professional competence. In the vocational fields it is particularly important since the occupational requirements in the labor force change at a relatively rapid rate. This problem is further complicated by the fact that most of the vocational instructors are contracted for 240 days per year, thus leaving little or no leeway for systematic contacts with the larger occupational universe.

Provisions should be made for the systematic and periodic retraining of both academic and vocational professional personnel. Academic personnel present a less complicated problem in that they can sharpen their current knowledge and skills through professional workshops, professional meetings, and graduate study. Vocational teachers need additional experiences, with particular emphasis upon realistic involvement with practitioners in their own fields. Thus individuals in computer science should have opportunities to observe and work in modern industrial and business installations. Those teaching electronics or electricity should have planned experiences with organizations who are the employers of their students.

Some method should be worked out whereby teachers and counselors can have periodically and systematically planned experiences in business and industry. These internships should be long enough to give both academic and career education personnel a genuine feel for business and industrial processes as they relate to individual workers. We think nothing of requiring

additional graduate work for teachers of academic subjects, but we often overlook the fact that their students as well as those in vocational-technical courses enter a different kind of world with different requirements and different contexts in which basic skills and intellectual processes are used. Such experiences would be of mutual benefit to both industry and education. The professionals in education could develop a clearer grasp of the world of work. Employers and employees would also have the opportunity to understand better the objectives of the processes of education.

Requirements for Certification of Teachers

The certification of professional personnel for community colleges should be thoroughly reexamined, with a view to making certain that there are appropriate equivalences between under-graduate and graduate education and industrial and business experience. The State of Virginia uses broad criteria for the certification of vocational teachers on the secondary level. They have recognized that college work is not necessarily the only avenue through which professionals can become qualified to teach vocational subjects.

The current restriction for the certification of teachers of related instruction in vocational education virtually precludes the use of those not having one or more years of business or industrial experience. Rather than having such a specific certification requirement, it is suggested that state authorities study the possibility of substituting business or industrial internships for academic personnel. This method would make it feasible to use qualified college parallel teachers in vocational related instruction. Another suggestion is that "academic" personnel be scheduled to teach with teams of vocational instructors to insure that content in related instruction is realistic in terms of the needs of students.

At least one university in Iowa should be encouraged to develop comprehensive graduate education for community college teachers and administrators. Up until a few years ago, only a few universities evidenced serious concern about the preparation of professional personnel for these types of institutions. Recently, interest has been growing at a rapid rate, primarily because of the availability of federal funds for such programs.

The common deficiencies of teachers in community colleges cluster about their lack of understanding of organizational and administrative structures and processes, students and student personnel services, curriculum and instruction, and the history and philosophy of community colleges. Given courses of substance in these areas, professionals in community colleges should have a substantially higher level of competence in dealing with their professional responsibilities and the people they serve.

Such courses should be extended onto the campuses of existing two-year institutions and, ideally, staff members should be able to take such courses at no expense to themselves.

Chapter Seven

ADMINISTRATIVE ORGANIZATION

State Level

When Iowa established the 15 area community colleges, insufficient thought was given to the necessity for adequate state leadership within the Department of Public Instruction. The development of 25 instructional centers within 15 separate administrative areas, the employment of several thousand professionals, and the inclusion of over 18,000 students in 1969 to Iowa's system of post-secondary education,[1] placed a heavy burden upon the few people assigned to coordinate the system. In view of the limited state staff, the Department of Public Instruction has done a remarkable job in overseeing these institutions. Documents analyzing and describing the activities and characteristics of community colleges have been both thorough and relevant to the state's needs. DPI personnel have, for the most part, attempted to be completely fair in the distribution of financial resources among the colleges. They also appear to have done their best to assure that state and federal funds be used for the specific educational programs for which they were appropriated.

1. See Table 6, Page 26.

Perhaps the most vexing problem in the past has been the tendency of some individuals to view state-community college relationships as being directive rather than consultative. These rigidities are sharply apparent in the state code which defines administrative titles and responsibilities. There has also been some tendency toward over-direction relative to the acquisition of equipment and the approval of new vocational and academic programs in the colleges. These relationships between the state level and local college boards and administrators have tended to distort decision making processes to the extent that some colleges have found it difficult to respond aggressively and effectively to local educational needs.

In order to strengthen state level coordination and leadership, the following alternatives should be considered.

1. Direction of community colleges would remain with the State Board of Education and the Department of Public Instruction under the direction of an associate or assistant superintendent. This division of DPI should have within it strong support personnel capable of mounting and operating a comprehensive research and development program. In addition, the staff should include adequate personnel responsible for fiscal affairs, budget review, auditing, and related activities. The primary purpose of such personnel would not be to direct the flow of funds, but rather to assure the people of the state that resources are being allocated to essential educational activity in accordance with guidelines developed by the State Board of Education.

2. A second alternative is to create a state board for community colleges. Such a board would be responsible for receiving and allocating state and federal funds for operating and capital purposes. In effect, it would be the board of

regents for Iowa's community colleges. It would, of course, need its own professional staff, small in numbers but high in quality.

3. A third alternative is to combine all public higher education under the aegis of a single board of regents, the membership of which would be carefully selected to protect the interests of all segments. In view of the diversity of needs and activities of community colleges vis-a-vis regents universities, this seems to be the least desirable alternative.

Sections of the state code relating to community colleges are inadequate in several ways. First, they are too explicit, particularly in relation to the titles and definitions of college administrators. Second, they are incomplete. Third, they include elements traditionally a part of secondary education which are inappropriate to post-high school institutions. Those responsible should seriously consider the desirability of reviewing guidelines from a number of other states with a view to forming a task force of community college officials and personnel from the Department of Public Instruction to write a new set of rules and regulations for the operation of community colleges. Much valuable information could be obtained from such states as Michigan, Pennsylvania, Texas, Florida, and North Carolina.

Some other pertinent suggestions include a study of the feasibility of working out interstate agreements so that students from Iowa and surrounding states could cross state lines to obtain education which is appropriate to their interests and needs. It should be possible for Iowans to attend colleges in surrounding states and for out-of-state students to attend Iowa institutions, based upon a trade off of costs among the states. Such a plan has been in use in a number of western and mountain states through the WICHE (Western Interstate Commission for Higher Education). Such an

agreement would make it possible for schools located near state lines to serve their populations more effectively whether they be state residents or not. It seems unrealistic to duplicate faculties, campuses, and other resources in a metropolitan area like Davenport, Moline, and Rock Island. Black Hawk College is a few miles across the Mississippi River from the Scott campus in Bettendorf. Both states could effectuate economies through joint planning and institutional development.

It would be helpful if the state code was made less rigid as it applies to the certification of career education teachers. Although minimum standards should be maintained, there is little doubt that post-high school education will move from a relatively rigid stance to a greater degree of flexibility as to qualifications of faculty, course content, and academic requirement.

It is also questionable whether the state through its code should mandate that the colleges be divided into four divisions: liberal arts, vocational education, adult education, and student services. This may be a useful division for planning, programming, and budgeting, but it does not necessarily make good educational sense in terms of program development and operation. It is suggested, therefore, that there be a comprehensive functional analysis and description of the general role, responsibilities, and relationships of the Department of Public Instruction to community colleges. Despite its limited staff, the Department has done its best to give leadership to these emerging institutions. Its roles should be reassessed, however, to insure that its contributions in research, general policy development, and up-to-date procedures characterize its activities.

Formal or Voluntary State Coordination

The issue of formal legalistic coordination vis-a-vis voluntary coordination among systems of public and private institutions of higher education, is a matter of concern in all states. There are advantages to both

systems. There are also disadvantages to each. Some advantages listed by Glenny are:[1]

1. Coordination is performed by persons acquainted with and responsible for individual institutions.

2. Each institution's autonomy is preserved.

3. There can be free exchange of information regarding operating and capital costs.

The disadvantages include:

1. Voluntary methods are difficult to implement in large and complex systems.

2. Professionals can and will act without the advice of lay members representing the general public interest.

3. Voluntary coordination tends to preserve the status quo rather than respond to new educational needs as they arise.

The need for strong state coordination of post-secondary education in Iowa should be obvious to all. Whether it be legally mandated or done voluntarily depends upon the ability of the leadership of each segment of higher education to cooperate with the others. The superintendents of the area schools should explore the possibility of contracting for services in private four-year colleges. While such cooperation may be relatively limited by practical considerations, it should not be ignored.

The unilateral action of Iowa's state extension service in proposing the establishment of 5 extension teaching centers indicates another breakdown in coordination. It is highly questionable whether the state can or should establish additional extension centers apart from existing area school campuses. Physical resources

1 - Lyman A. Glenny, Autonomy of Public Colleges: The Challenge of Coordination. New York: McGraw Hill Book Co., 1959, pp. 246-248, 262.

in which Iowa has already made a large investment should be utilized to maximum capacity, and duplication of such facilities should be avoided if at all possible.

Another concrete result which should grow out of statewide coordination is the distribution of career and education programs among the 15 community colleges. It is suggested that programs preparing individuals for occupations employing small numbers of people should be restricted to one or two institutions rather than appearing on most campuses in a haphazard way.

The immediate question is not whether Iowa should have coordination, but the kind of structure within which it should take place. As pointed out earlier, the authorization and organization of 15 community colleges has created serious disequilibrium to a limited extent with the secondary school system, and to a much greater extent with private colleges and the regents universities. It is the impression of IED and its consultants that most educational administrators within the state have been reluctant to come to grips with the necessity for coordination and cooperation with other segments of the system. If voluntary coordination continues to be effectively resisted by individual institutions or groups of institutions, legislatively mandated coordination through the Executive Branch seems to be inevitable.

Community College Districts

The 15 existing area schools, or community colleges, are in reality administrative units (see Figure 2), some of which have two or more campuses or attendance centers. The question must be asked whether Iowa needs 15 administrative centers for this segment of higher education. Do the districts have the proper geographic configuration? Would better management of the districts occur if there were 8, 10, or 12 instead of 15.

FIGURE 2

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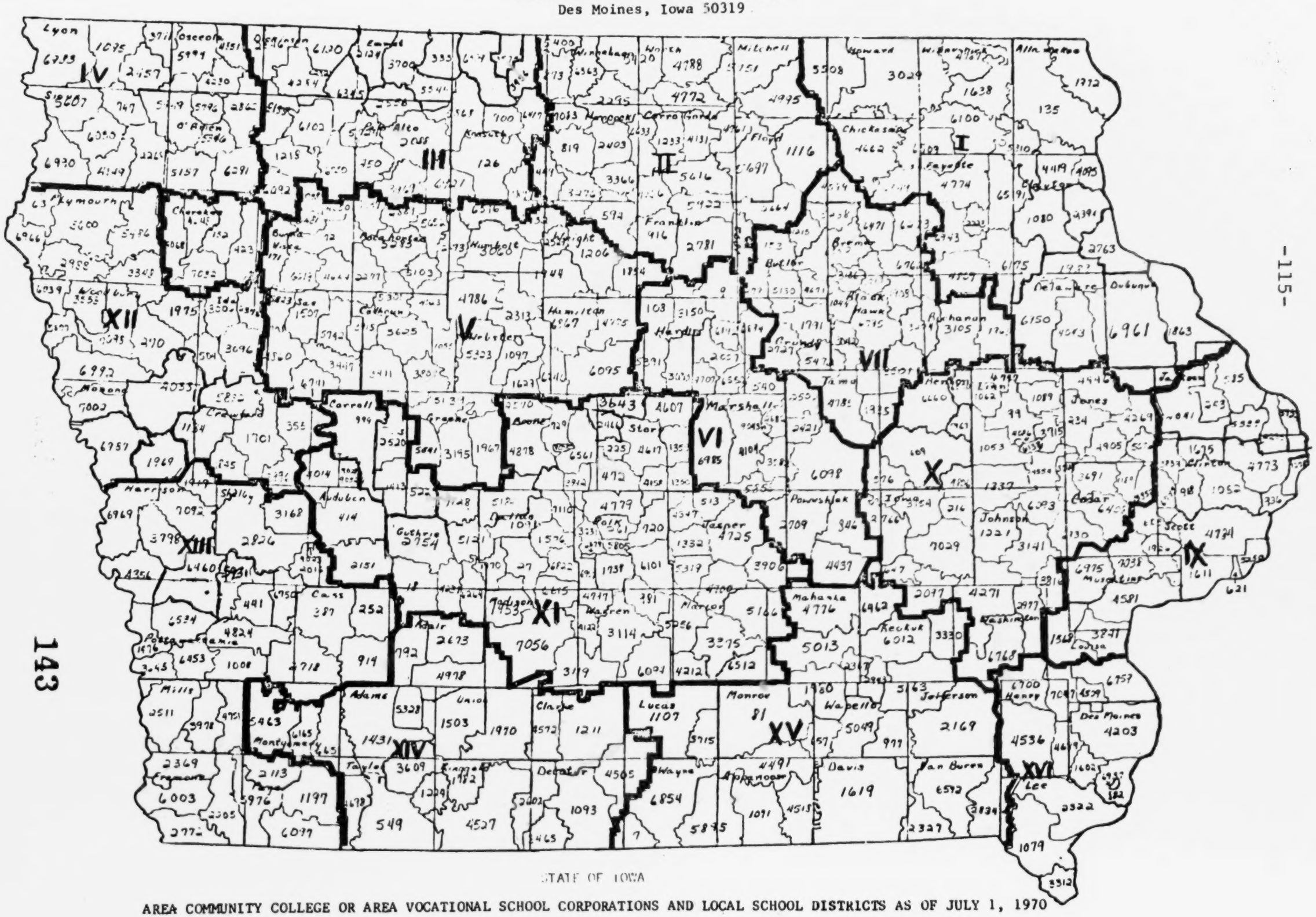
State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Des Moines, Iowa 50319



STATE OF IOWA

AREA COMMUNITY COLLEGE OR AREA VOCATIONAL SCHOOL CORPORATIONS AND LOCAL SCHOOL DISTRICTS AS OF JULY 1, 1970

There is evidence to indicate that some districts have insufficient population and local tax resources to support a viable and expanding college program. Some colleges tend to draw heavily upon the students living in other districts. There is definite evidence of competition for numbers, largely because the state financial formula rewards the institution having the largest enrollments.

It is suggested that the state study the feasibility of reorganizing community colleges into not less than 10 and not more than 12 administrative units. If district lines are properly redrawn, each college will have an adequate population base and adequate numbers of students to sustain comprehensive educational offerings. If at the same time duplication of courses is maintained at minimal levels, quality of programs will be assured and perhaps some economies can be effectuated. It is recommended that the state not establish any additional campuses but rather to enlarge cautiously those now in existence.

Community College Administration

The consultants generally found capable and dedicated administrators and faculty members in these colleges. They were well versed in their responsibilities, and showed consistently high motivation for developing outstanding vocational and technical programs. Even the limited number of faculty members and administrators responsible for college parallel programs strongly supported the idea of expanding and improving the quality of technical and vocational education.

The administrative structures of these colleges tends to be traditional. Their educational services are administered in three divisions: college parallel, vocational-technical, and adult or continuing education. Authority and responsibility tends to be centralized in the administrative centers, where such matters as policy recommendations, long-range planning, program development, budget development and control, and day-to-day administration are centered. In all except the

largest colleges, there is still rudimentary faculty participation in decision making. In the small institutions, close personal relationships are maintained among professionals. Thus, an elaborate faculty committee system is probably unnecessary. In the larger colleges, faculty participation in institutional governance is organized through committees, and from the evidence available to the consultants, has generally been satisfactory to both faculty and administrators.

The administrative structure of the colleges seems to be dictated by the pattern of state funding. Thus the three divisions. There is some logic to dividing the colleges into three major operational segments; however, each college must be alert to prevent the divisions from becoming competitive rather than cooperating to the fullest possible extent in the interests of students

The titles of administrators are not appropriate to community colleges. The superindentent should be the president of the institution. He is administering a complex decentralized group of instructional centers in most instances. He also has a responsibility to post-secondary educational institutions. His effectiveness as an educational leader in his community, in the state, and on the national scene would be strengthened with such a new title. Psychologically, it would also be advantageous for students to feel they are entering an arena beyond the traditional concept of school.

A serious deficiency in these colleges is the lack of a dean who should be the chief educational officer. College presidents have more than enough to do relative to finance, long-range planning, development of physical facilities, and state and local relationships. The direction of the three major divisions would be more precise and effective if each college had a dean of instruction or a dean of faculties.

Below this level, it is appropriate to have area directors for the three divisions, who would be responsible for the day-to-day administration of the activities of their particular division in the institution.

The administrative structure of Iowa Western Community College is a typical one. This institution is not only in the process of building a new campus in Council Bluffs, but it also inherited the Clarinda Campus, as did many of the other community colleges. The charts (Figures 3 to 8) show a reasonable and logical functional organization of the institution. With the change of titles to president, dean, and directors, it would resemble the organization found in many such colleges throughout the country.

Enrollment Trends

The fastest growing segment of post-high school education is the public university sector. Both number and percentage increments between 1966 and 1969 (Tables 36 to 41) were highest in these institutions. Private colleges and universities declined a total of 2,481 students over the four-year period. Private junior colleges increased enrollments by 405 students. Between 1966 and 1969, public community colleges increased by 1,917; the largest increase taking place between 1966 and 1967.

The percentage of new freshmen in public community colleges has remained virtually stable during these four years. It increased from 24.1 percent to 26.5 percent of the gross state enrollment during that period. At the same time the percentage share of new freshmen, in private colleges and universities, declined from 39.8 percent in 1966 to 32.7 percent in 1969. The state institutions have also increased their share of new freshmen, having 30.1 percent in 1966 and 32.9 percent in 1969.

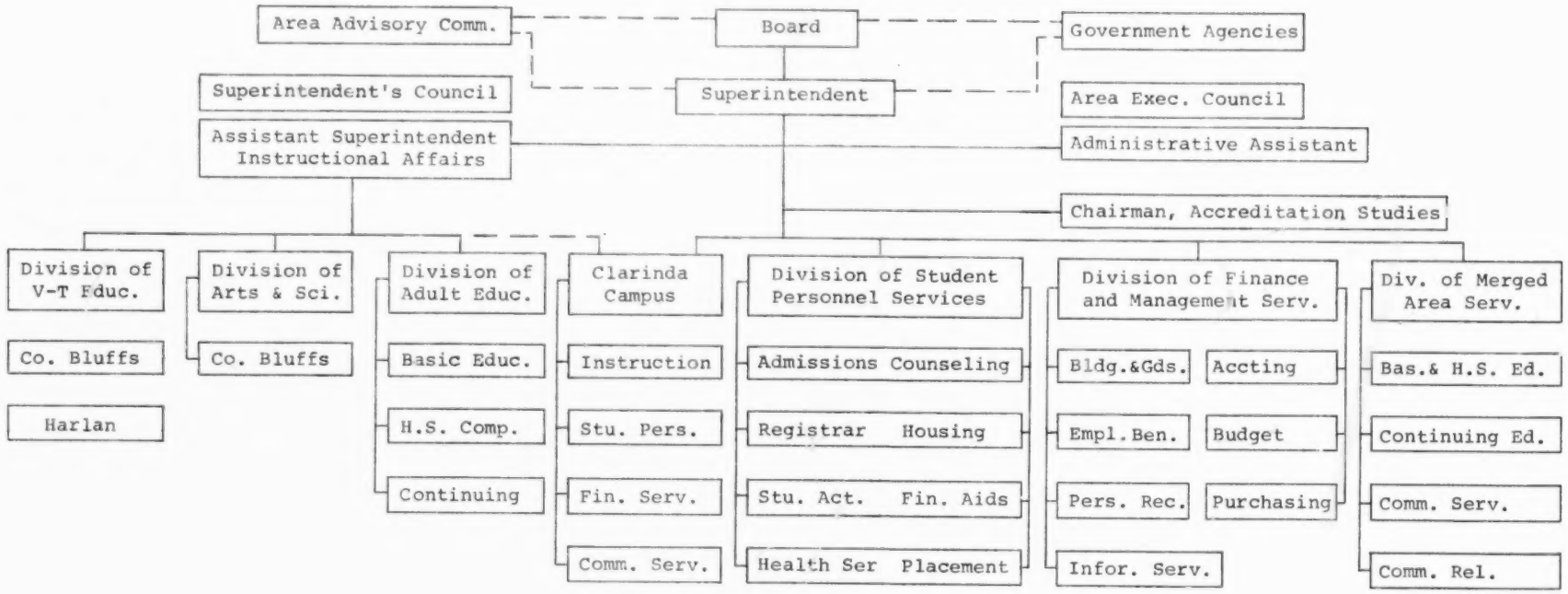
Several elements should be kept in mind concerning these data. They are not completely internally consistent, nor are they completely compatible with those generated by the Department of Public Instruction. The differences, however, are so minor that they adequately serve the purposes of this report.

FIGURE 3

Organization Chart

AREA ADMINISTRATIVE STRUCTUI

Iowa Western Community College



A Status Study of the Council Bluffs Campus, Iowa Western Community College, April, 1970, P. 17.

FIGURE 4

Organization Chart

Division of Arts and Sciences

Iowa Western Community College

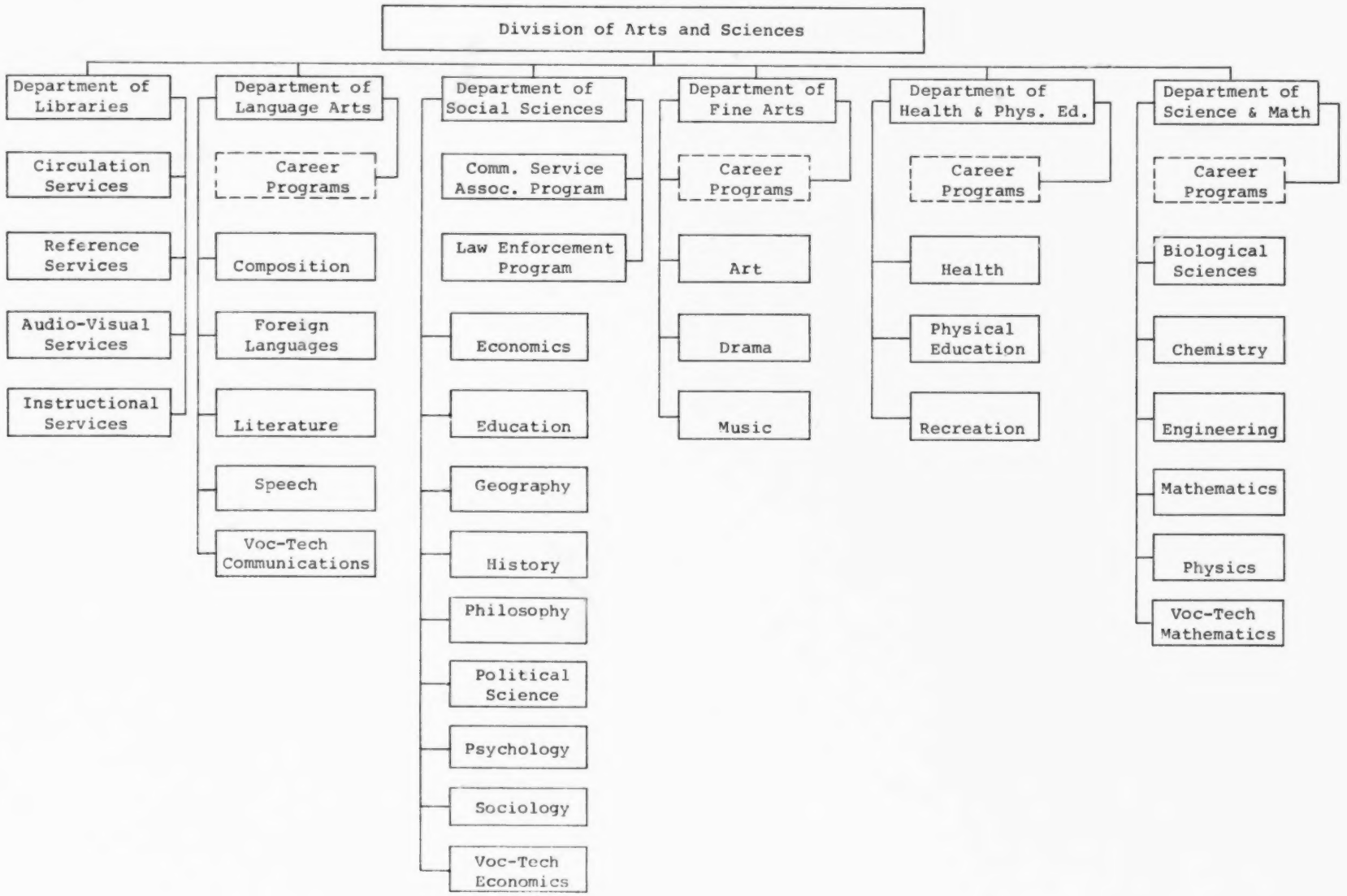
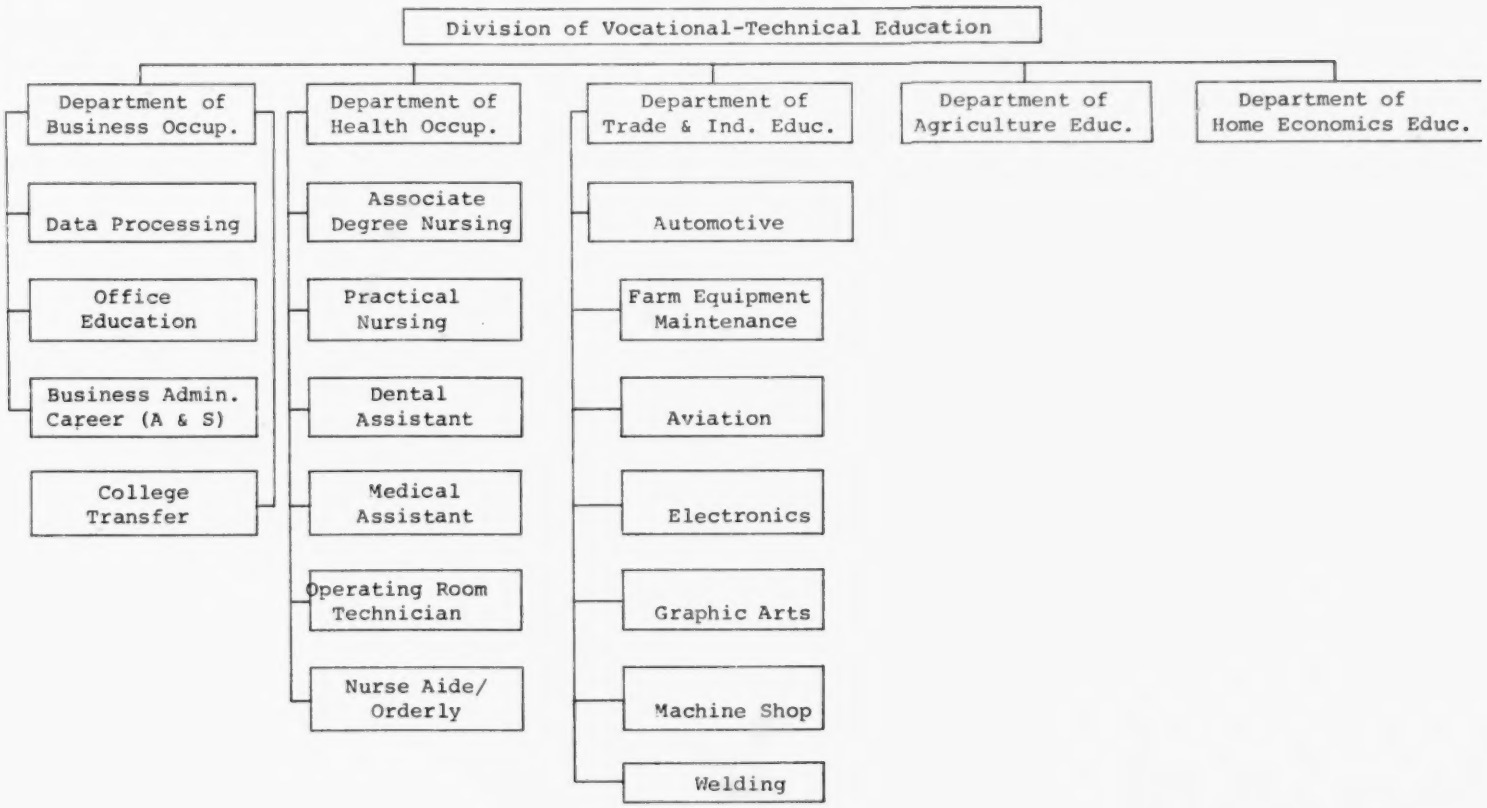


FIGURE 5

Organization Chart

DIVISION OF VOCATIONAL-TECHNICAL EDUCATION

Iowa Western Community College



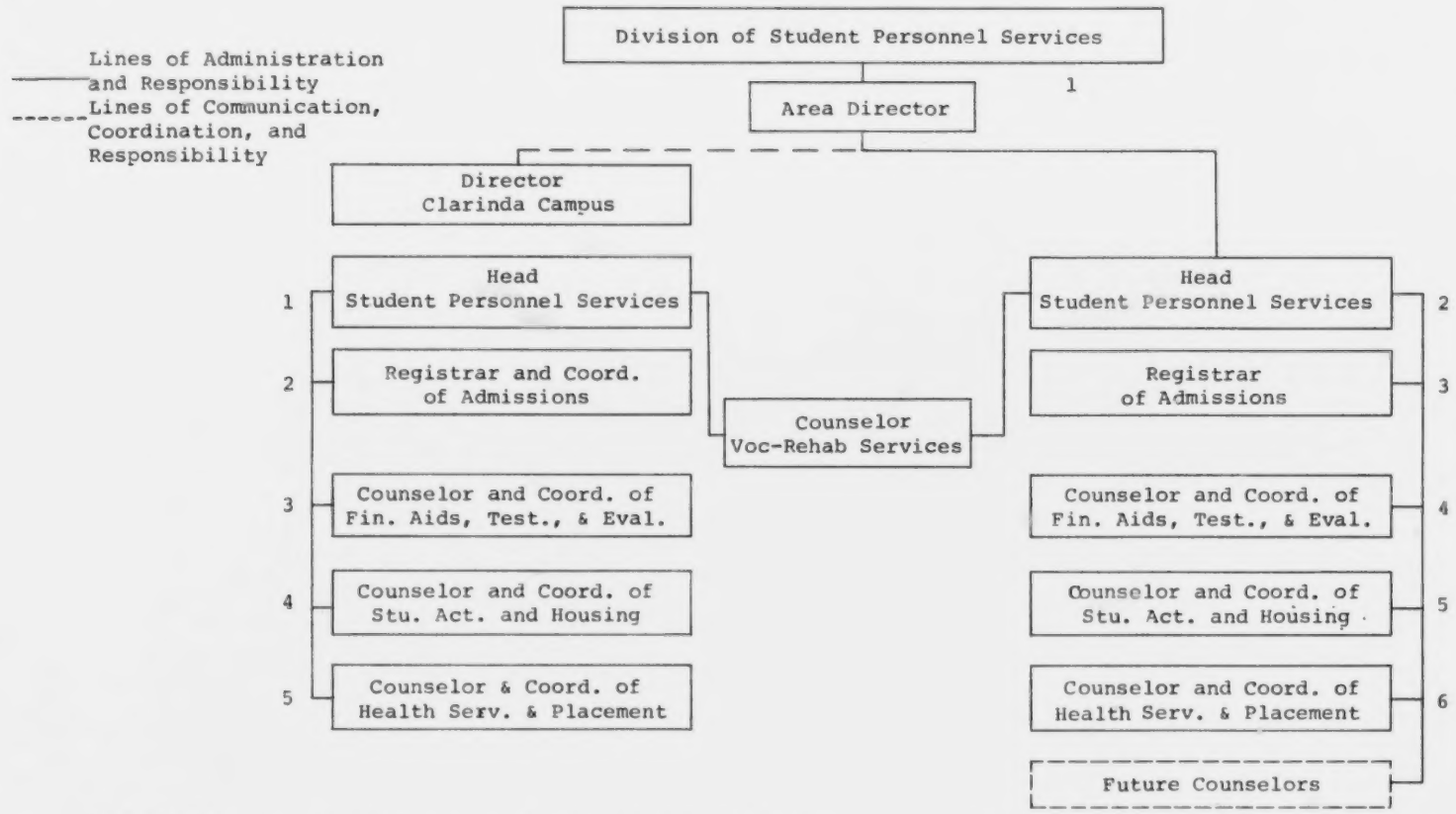
A Status Study of the Council Bluffs Campus, Iowa Western Community College, April, 1970, P. 18.

FIGURE 6

Organization Chart

DIVISION OF STUDENT PERSONNEL SERVICES

Iowa Western Community College



Clarinda Campus: Positions 1, 2 & 3 are the responsibility of the Head of Student Personnel Services while positions 4 and 5 are the responsibility of another counselor. In the fall of 1970, a third person will be employed as a counselor and will assume responsibilities now shared by two individuals.

Council Bluffs Campus: Positions 1, 2 & 3 are handled by the Area Director. Future staffing is being contemplated and duties now performed by the Area Director will be assigned to other Student Personnel staff. Positions 4, 5, & 6 are each assigned to a counselor.

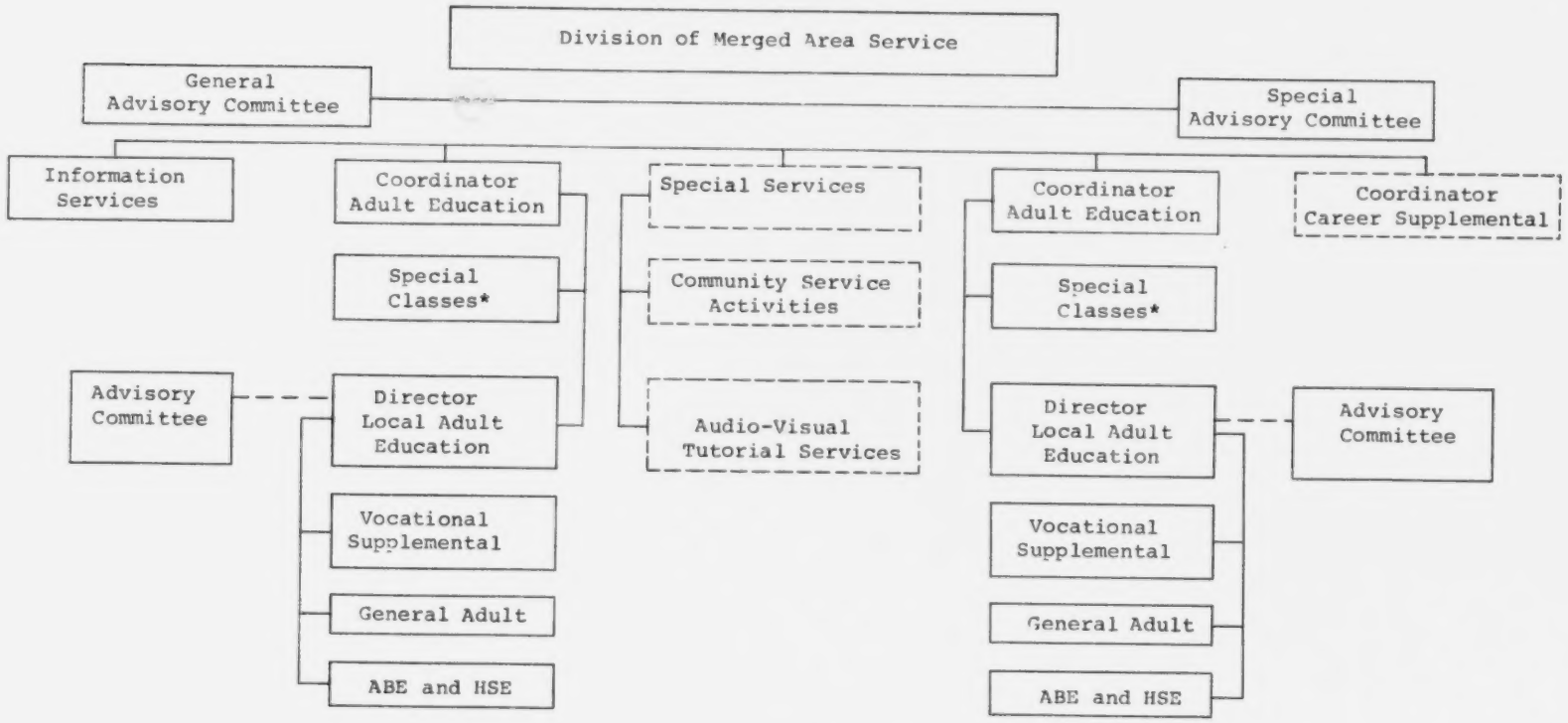
A Status Study of the Council Bluffs Campus, Iowa Western Community College, April, 1970, P. 19.

FIGURE 7

Organization Chart

DIVISION OF MERGED AREA SERVICES

Iowa Western Community College



* Special classes where students are from several community schools

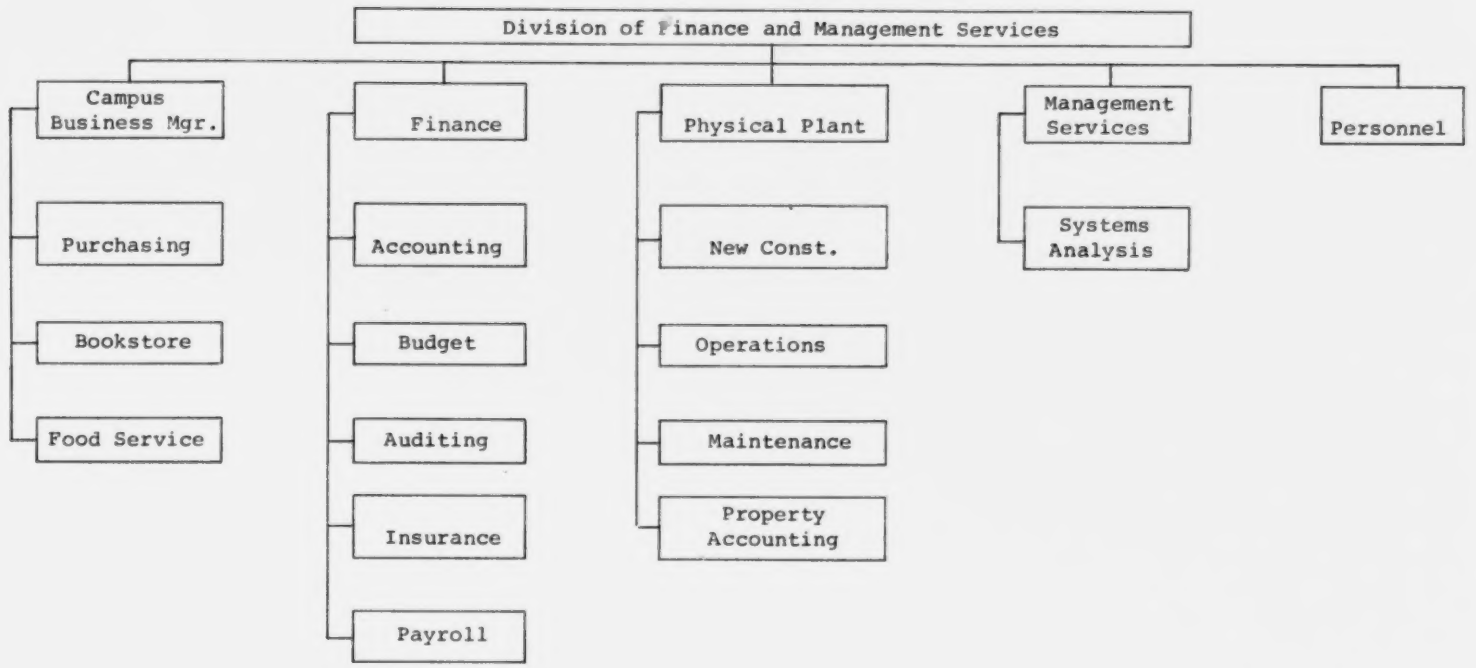
A Status Study of the Council Bluffs Campus, Iowa Western Community College, April, 1970, P. 20.

FIGURE 8

Organization Chart

DIVISION OF FINANCE AND MANAGEMENT SERVICES

Iowa Western Community College



A Status Study of the Council Bluffs Campus, Iowa Western Community College, April, 1970, P. 21.

TABLE 36

Enrollment of Total Students and New Freshmen
by Type of Institution, 1966 and 1967

TYPE OF INSTITUTION	TOTAL ENROLLMENT			NEW FRESHMEN		
	Fall 1966	Fall 1967	Percent Change	Fall 1966	Fall 1967	Percent Change
State Institutions	40,356	43,739	+8.4	7,808	7,906	+1.3
Private Colleges and Universities	38,855	36,505	-6.0	10,098	9,490	-6.0
Professional and Technical Colleges	315	334	+6.0	---	---	---
Public Junior Colleges	10,608	11,900	+12.2	6,230	7,346	+17.9
Private Junior Colleges	3,190	3,580	+12.2	1,541	1,826	+18.5
ALL INSTITUTIONS	93,324	96,058	+2.9	25,677	26,569	+3.5

TABLE 37

Percentage Distribution of Total Students and New Freshmen
by Type of Institution, Fall 1966 and 1967

TYPE OF INSTITUTION	TOTAL ENROLLMENT		NEW FRESHMEN	
	Fall 1966	Fall 1967	Fall 1966	Fall 1967
State Institutions	43.2	45.5	30.1	29.8
Private Colleges and Universities	41.6	38.0	39.8	35.7
Professional and Technical Colleges	.3	.3	---	---
Public Junior Colleges	11.4	12.4	24.1	27.6
Private Junior Colleges	3.4	3.7	6.0	6.9
ALL INSTITUTIONS	100.0%	100.0%	100.0%	100.0%

Iowa College Presidents' Association

TABLE 38

Enrollment of Total Students and New Freshmen
by Type of Institution, 1967 and 1968

TYPE OF INSTITUTION	TOTAL ENROLLMENT			NEW FRESHMEN		
	Fall 1967	Fall 1968	Percent Change	Fall 1967	Fall 1968	Percent Change
State Institutions	43,739	46,665	+6.7	7,899	8,235	+4.3
Private Colleges and Universities	36,562	36,124	-1.2	9,637	9,254	-4.0
Professional and Technical Colleges	1,338	1,403	+4.9	238	298	+25.2
Public Junior Colleges	11,740	12,405	+5.7	7,141	7,272	+1.0
Private Junior Colleges	3,457	3,500	+3.0	1,700	1,850	+8.8
ALL INSTITUTIONS	96,836	100,187	+3.5	26,615	26,909	+1.1

TABLE 39

Percentage Distribution of Total Students and New Freshmen
by Type of Institution, Fall 1967 and 1968

TYPE OF INSTITUTION	TOTAL ENROLLMENT		NEW FRESHMEN	
	Fall 1967	Fall 1968	Fall 1967	Fall 1968
State Institutions	45.2	46.6	29.7	30.6
Private Colleges and Universities	37.7	36.0	36.2	34.4
Professional and Technical Colleges	1.4	1.4	.9	1.1
Public Junior Colleges	12.1	12.4	26.8	27.0
Private Junior Colleges	3.6	3.6	6.4	6.9
ALL INSTITUTIONS	100.0%	100.0%	100.0%	100.0%

Iowa College Presidents' Association

TABLE 40

Enrollment of Total Students and New Freshmen
by Type of Institution, 1968 and 1969

TYPE OF INSTITUTION	TOTAL ENROLLMENT			NEW FRESHMEN		
	Fall 1968	Fall 1969	Percent Change	Fall 1968	Fall 1969	Percent Change
State Institutions	46,665	48,904	+4.8	8,235	9,007	+9.4
Private Colleges and Universities	36,374	35,584	-2.2	8,805	8,965	+1.8
Professional and Technical Colleges	1,387	1,397	+ .7	203	196	-3.4
Public Junior Colleges	12,315	12,525	+1.7	7,286	7,273	- .2
Private Junior Colleges	3,599	3,595	- .1	1,853	1,979	+6.8
ALL INSTITUTIONS	100,340	102,005	+1.7	26,382	27,420	+3.9

TABLE 41

Percentage Distribution of Total Students and New Freshmen
by Type of Institution, Fall 1968 and 1969

TYPE OF INSTITUTION	TOTAL ENROLLMENT		NEW FRESHMEN	
	Fall 1968	Fall 1969	Fall 1968	Fall 1969
State Institutions	46.5	47.9	31.2	32.9
Private Colleges and Universities	36.2	34.9	33.4	32.7
Professional and Technical Colleges	1.4	1.4	.8	.7
Public Junior Colleges	12.3	12.3	27.6	26.5
Private Junior Colleges	3.6	3.5	7.0	7.2
ALL INSTITUTIONS	100.0%	100.0%	100.0%	100.0%

Iowa College Presidents' Association

It would appear that public community colleges are by and large serving a new population different than that served by other institutions prior to 1966. During these four years, private colleges lost 2,481 students; public community colleges gained 270 college-parallel students according to the Department of Public Instruction statistics; and state institutions gained 8,548.

The current evidence does not indicate that public community colleges seriously threaten the enrollment of private colleges and universities. A development of two-year institutions in future years might, however, syphon off a substantial number of college-parallel students. Evidence from the national scene indicates that community colleges can serve a different type of clientele.[1] There are numerous examples of states in which private colleges and public community colleges have successfully coexisted for many years, such as, Michigan, New York, and California.

Another significant development relevant to state policy, planning, and the future of private four-year colleges and universities in the state, is the intention of the regents universities to establish 5 extension centers. This expansion of public education may well be a more serious threat to the welfare of private colleges than the planned expansion of community college programs.

Although outside the primary focus of this report, it should be noted that the private college sector will experience increasing financial difficulties as public physical facilities and educational services are expanded, and if the disparity between costs to parents continues in its current relationship. Simply stated, private institutions are facing two necessary pre-conditions if they are to survive. First, a way must be found to finance them through partial funding, state

1 - James W. Trent and Leland L. Medsker, Beyond High School: A Psychosociological Study of 10,000 High School Graduates, San Francisco: Jossey-Bass Inc., 1968.

or federal. And second, they must change some of their administrative arrangements and educational practices in order to be eligible for such public support.

Chapter Eight

PHYSICAL FACILITIES

Iowa is well on the way building physical facilities to accommodate vocational-technical programs. A total of $15,500,000 has been allocated for this purpose from federal grants, state grants, and the local three-quarter mill real estate levy. Much of this planned construction is either under way or completed. The facilities observed by the consultants are generally attractive and quite utilitarian. In general, they provide well planned and adequate space for vocational and technical programs. There was evidence of well thought out campus master plans so that when completed the facilities will be pleasing to the eye and quite functional.

A number of questions regarding future development of these campuses should be considered by the State Board of Education and its advisory committees. The first is, does the state have guidelines and procedures, planning and cost data, for the construction of physical plants. One of the best documents is Procedures, Planning Guides, and Cost Data for Community Colleges, State University of New York, Office of Architecture and Facilities. This document contains invaluable information regarding the planning of facilities, specialized space, space projections, definition of terms, codes and regulations, some guides on site selection, and guidelines for construction costs. While not necessarily wholly applicable to Iowa, the information contained therein could be very useful to state level administrators and to individual colleges.

Responsible authorities within the state should develop a set of policies relative to the construction and operation of dormitories by community colleges. This policy involves a number of basic questions. Before making decisions regarding the construction of dormitories, it should first be determined whether or not career education programs are going to be placed in selected institutions in a systematic way. If, for example, the state is to have two large programs in cookery, housing students from all over the state becomes an important consideration. The choice here lies between the construction of student housing or the extensive proliferation and duplication of programs in different institutions.

Should the colleges build traditional-type dormitory buildings? There are definite indications that college students have rejected the concept of in loco parentis. Some colleges and universities are having difficulty filling existing dormitory rooms. They are also encountering difficulty in applying traditional patterns of behavior. Certainly before large investments of capital are made in traditional student housing, it should be determined whether these buildings can be filled to capacity and operated on a reasonable level of economy.

The fact that the population of Iowa is stabilized and will probably not increase markedly in the next decade is another factor which should be considered. Community colleges will serve an ever-increasing number of adults who, for the most part, will not need or desire student housing as we know it today. This shift in population has implications for the amount of housing to be made available and the physical configuration in which it will be constructed. In any event, there should be some overall state policy regarding dormitories on or adjacent to community college campuses. There is a real danger that the state might find itself with an excess of such facilities within a relatively few years.

Some Problems and Some Suggestions

The setting aside of five percent of college operating budgets for library development and acquisition is an excellent idea. The colleges have used these funds to acquire basic library materials which support all of their programs. Most libraries are too young to have collections adequate to support rapidly expanding enrollments and additional new courses. The introduction of broader educational responsibilities should always be preceded by planning which includes the development of educational materials needed to support the new activities as soon as the first students enroll in them. It is also suggested that librarians and faculty members vigorously explore appropriate media other than books and periodicals. Many students in community colleges, and particularly those in career education, tend to be more familiar with and respond better to non-print media. The large enrollments in career and continuing education would indicate that library collections should be developed in the light of the clientele being served as well as the subject matter being taught.

It is both feasible and economical for colleges to acquire specialized collections in a cooperative program. It is not necessary that some materials be duplicated on all campuses. Rather, expensive materials such as films, video tapes, and similar media might be collected in designated libraries and circulated among all the campuses as needed. The regents universities might well serve a valuable function in this regard.

One of the most rapidly emerging occupations is growing around modern computer systems. Most colleges already offer programs in this field. A number of colleges have acquired equipment while others are planning to do so in the immediate future. Needless to say, such equipment is very expensive and ways should be found to avoid unnecessary duplication. Not only should the colleges find ways of sharing computer time among themselves, but they should also explore the

feasibility of sharing such equipment with private colleges and universities. In some instances, four-year colleges and universities have equipment which is perfectly suitable for use by community colleges, and in these instances it is difficult to justify side-by-side installations which are expensive to acquire and operate. This is one of the many areas in which state coordination and even direction is indicated.

It is important that state authorities review the present status of the construction of physical facilities in these colleges. There are wide variations in campus development among the 15 institutions. Wide disparities in local tax bases in the various districts have on the one hand stimulated some colleges to begin or complete ambitious building programs, while others find it impossible to generate sufficient funds from local tax sources and state and federal grants to complete badly needed physical facilities. The state should consider a plan whereby the cost of large capital investments in buildings and permanent equipment are shared equally by the local district and the state. This would necessitate the elimination of the three-quarter mill limitation for capital purposes. The state should also consider extending the length of local tax levies for capital purposes from 5 to 20-25 years.

The state sorely needs a master plan for campus development. Such a plan should be based upon the careful analysis of enrollment developments during the next decade. It should also include a careful scanning of the movement of population within the state as well as out-migration. Although additional physical facilities are needed immediately, a physical plant master plan including both public and private institutions is essential if over building is to be avoided. There is every indication that enrollments in higher education will level off or even decline from the high water mark sometime during the next ten years. In the absence of such a plan, competition for students and public funds will probably continue unchecked. Such planning is an imperative if Iowa is to have the education it needs at a price it can afford.

Chapter Nine

FINANCE

The final area of concern to which this study is addressed is that of finance in the community colleges, with particular attention given to vocational education. The discussion of this chapter covers four major topics: (1) formula for financing; (2) expenditures per full-time equivalent enrollment; (3) some problems of financing; and (4) a system of programming, planning, and budgeting.

Formula for Financing

Iowa's community colleges are financed by the following formula:

1. A maximum tax levy of three-quarters of a mill on real estate for annual operating costs.

2. A maximum levy of three-quarters of a mill on real estate for capital improvements, which must be approved by a majority of voters every five years.

3. State aid of $2.25 per day per full-time equivalent student.

4. Tuition and fees paid by students.

5. Federal grants for approved operating projects.

6. Federal grants for the construction of physical facilities.

7. State grants through the State Board of Public Instruction for capital improvements from funds appropriated by the state legislature.

8. Gifts from individuals, corporations, or foundations.

9. Vocational-technical funds administered by the Department of Public Instruction.

College Expenditures

Expenditures per FTEE vary widely from college to college. In 1968-69 the institution having the lowest FTEE annual enrollments was Marshalltown (VI), which was $833. Area I (Calmar) had the largest expenditure, $1,654. The average was $1,160 per FTEE. There seems to be little justification in such wide variations in operating costs. Area I (Calmar) is 142 percent of the state average, while Marshalltown is 71.8 percent of the state average. Council Bluffs is 138 percent of the state average. Table 42 shows the cost per FTEE for each institution.

TABLE 42

General Fund Expenditures Excluding
Transfers and Capital Outlay, 1968-69

AREA	COST PER FTEE
Marshalltown (VI)	$ 833
Burlington (XVI)	1,012
Mason City (II)	1,016
Estherville (III)	1,032
Ft. Dodge (V)	1,092
Cedar Rapids (X)	1,137
Creston (XIV)	1,149
Sioux City (XII)	1,192
Sheldon (IV)	1,193
Ankeny (XI)	1,212
Waterloo (VII)	1,220
Ottumwa (XV)	1,331
Bettendorf (IX)	1,380
Council Bluffs (XIII)	1,599
Calmar (I)	1,654
Average	1,160

The Department of Public Instruction analyzed the 1968-69 expenditures per FTEE (reimbursable and non-reimbursable). The analyses are contained in Tables 43 and 44. As might be expected, the cost per FTEE in vocational-technical programs was consistently higher than costs for arts and sciences or adult education students. Arts and sciences expenditures range from $555.03 to $1,427.86. Costs per enrollee in adult education varied from $168.59 to $1,653.25. Vocational-technical students costs range from $981.06 to $3,120.11

Two factors must be considered here. First, are these wide differences in FTEE costs justifiable? What variables are operating which make it possible for one college to spend $555.03 on each arts and sciences student, while another requires $1,427.86? The same question can be raised relative to costs in vocational-technical and adult education.

The second factor which becomes apparent from this analysis is that career education is generally more expensive than either arts and sciences or adult education. It might be well for the state to develop formulae for annual operating costs of the three programs: college parallel, career education, and adult education. There is now and will remain a differential in costs, but one would expect that all 15 colleges could function within the limits of general guidelines laid down by a state committee or the Department of Public Instruction. These guidelines might be based upon an FTEE cost of 1.0 for college parallel students, 0.8 for adults, and 1.5 for career education. Thus assuming the base cost of $1,200 per student in arts and sciences, adults would receive $960 and career education students would receive $1,800. The formulae could be adjusted annually to account for rising costs and the launching of new educational programs.

The cost of career education per FTEE is high. It will continue to be so or increase unless each individual institution improves its long-range planning and institutes detailed financial analyses and controls. Some of the variables which can bring student costs to a

TABLE 43

State of Iowa
Department of Public Instruction

Cost Per FTEE (Reimbursable & Non-Reimbursable)

1968-1969 EXPENDITURES INCLUDING TRANSFERS

Area	Arts & Sciences			Vocational-Technical			Adult Education			Total		
	Expend.	Total Enroll.	Cost Per Enrollee	Expend.	Total Enroll.	Cost Per Enrollee	Expend.	Total Enroll.	Cost Per Enrollee	Expend.	Total Enroll.	Cost Per Enrollee
I	- 0 -	- 0 -	- 0 -	724948.71	325.460	2227.46	75322.76	110.090	684.19	800271.47	435.550	1837.38
II	1257264.37	1288.852	975.49	480850.43	398.054	1208.00	59611.18	82.540	722.21	1797725.98	1769.446	1015.98
III	628516.99	689.278	911.85	286345.20	170.550	1678.95	65174.36	89.990	724.24	980036.55	949.818	1031.81
IV	- 0 -	- 0 -	- 0 -	462077.69	324.330	1424.71	54821.18	54.810	1000.20	516898.87	379.140	1363.34
V	1454425.27	1277.330	1138.64	509519.43	394.110	1292.83	31370.91	186.080	168.59	1995315.61	1857.520	1074.18
VI	1465894.32	1742.897	841.07	354400.17	361.242	981.06	49299.21	92.240	534.47	1869593.70	2196.379	851.22
VII	- 0 -	- 0 -	- 0 -	1216411.32	836.540	1454.10	264037.16	296.500	890.51	1480448.48	1133.040	1306.62
IX	1288006.41	902.050	1427.86	942522.03	652.590	1444.28	110109.51	144.250	763.32	2340637.95	1698.890	1377.74
X	752154.36	807.130	931.89	1280544.60	938.010	1365.17	1220640.51	978.130	1247.93	3253339.47	2723.270	1194.64
XI	216017.30	389.200	555.03	1976555.77	811.230	2436.49	860703.91	884.020	973.62	3053276.98	2084.450	1464.79
XII	- 0 -	- 0 -	- 0 -	770331.44	468.650	1643.72	235866.51	317.740	742.32	1006197.95	786.390	1279.51
XIII	782320.05	632.018	1237.81	1070243.94	343.015	3120.11	99119.15	153.478	645.82	1951683.14	1128.511	1729.43
XIV	329360.03	339.930	968.90	288578.11	104.950	2749.67	42549.95	57.040	745.97	660488.09	501.920	1315.92
xv	876050.40	644.500	1359.27	1266039.30	976.380	1296.67	176600.20	106.820	1653.25	2318689.90	1727.700	1342.07
XVI	908746.16	1072.180	847.57	376036.02	304.330	1235.62	126748.19	175.450	722.42	1411530.37	1551.960	909.51
Total	9958755.66	9785.365	1017.72	12005404.16	7409.441	1620.28	3471974.69	3729.178	931.03	25436134.51	20923.984	1215.64

TABLE 44

State of Iowa
Department of Public Instruction

Cost Per FTEE (Reimbursable & Non-Reimbursable)

1968-1969 GENERAL FUND EXPENDITURES EXCLUDING TRANSFERS AND CAPITAL OUTLAY

Area	Arts & Sciences			Vocational-Technical			Adult Education			Total		
	Expend.	Total Enroll.	Cost Per Enrollee	Expend.	Total Enroll.	Cost Per Enrollee	Expend.	Total Enroll.	Cost Per Enrollee	Expend.	Total Enroll.	Cost Per Enrollee
I	- 0 -	- 0 -	- 0 -	577978.24	325.460	1775.88	75322.76	110.090	684.19	653301.00	435.550	1499.94
II	1249837.81	1288.852	969.73	477356.98	398.054	1199.23	59611.18	82.540	722.21	1787805.97	1769.446	1010.38
III	600377.04	689.278	871.02	218412.79	170.550	1280.64	63067.44	89.990	700.83	881857.27	949.818	928.45
IV	- 0 -	- 0 -	- 0 -	384279.96	324.330	1184.84	53017.69	54.810	967.30	437297.65	379.140	1153.39
V	1403117.83	1277.330	1098.48	509519.43	394.110	1292.83	31370.91	186.080	168.59	1944008.17	1857.520	1046.56
VI	1416174.40	1742.987	812.54	330151.55	361.242	913.93	48951.66	92.240	530.70	1795277.61	2196.379	817.38
VII	- 0 -	- 0 -	- 0 -	1052899.40	836.540	1258.64	264037.16	296.500	890.51	1316936.56	1133.040	1162.30
IX	1206451.83	902.050	1337.45	894666.12	652.590	1370.95	108437.82	144.250	751.73	2209555.77	1698.890	1300.59
X	710073.13	807.130	879.75	1099210.22	938.010	1171.85	1175607.19	978.130	1201.89	2984890.54	2723.270	1096.07
XI	213829.26	389.200	549.41	1356652.95	811.230	1672.34	831101.12	884.020	940.14	2401583.33	2084.450	1152.14
XII	- 0 -	- 0 -	- 0 -	591567.10	468.650	1262.28	231194.88	317.740	727.62	822761.98	786.390	1046.25
XIII	759158.49	632.018	1201.16	717679.39	343.015	2063.11	99119.15	153.478	645.82	1575957.03	1128.511	1396.49
XIV	325165.08	339.930	956.56	198699.57	104.950	1893.28	42443.40	57.040	744.10	566308.05	501.920	1128.28
XV	855073.04	644.500	1326.72	1140039.30	976.380	1167.62	175846.56	106.820	1646.19	2170958.90	1727.700	1256.56
XVI	904474.71	1072.180	843.58	356918.56	304.330	1172.80	126597.29	175.450	721.56	1387990.56	1551.960	894.35
Total	9643732.62	9785.365	985.53	9906031.56	7409.441	1336.95	3385726.21	3729.178	907.90	22935490.39	20923.984	1096.13

more realistic and somewhat lower level include student-teacher ratios. Some such ratios have little flexibility; for example, a ratio of 10 to 1 in licensed practical nursing, and a similar ratio in associate degree nursing programs. There are limitations on student-teacher ratios in some mechanical and machine laboratories, aircraft engine mechanics, and in other situations involving dangerous machinery or close personal supervision of students.

It is questionable whether the state can or should encourage the establishment of new career education programs without an overall state plan. Is it necessary for every community college to have a course in auto mechanics? How many programs in associate degree nursing should there be? Should every college try to cover the whole range of electrical and electronic technologies? It appears to the consultants that the whole system of community colleges would be better served if institutions introduced new programs somewhat more slowly than has taken place since 1966. Financially, all the colleges would be on firmer ground if new career education programs were given from two to five years to mature before introducing additional ones. When a program reaches its full enrollment the annual FTEE costs should decline, thus making it possible to consider the additional new offerings which initially will be more expensive.

Some Problems of Financing

In this section we will look at some advantages and disadvantages of the present financial support of annual operating costs and capital construction costs. First we will look at annual operating income. (See Table 45).

The current law makes it possible for each area to have a maximum levy of three-quarters of a mill to provide income for annual operating costs. This limitation works to the advantage of some districts, while it places others in a difficult financial position. Local tax dollars behind each student varies widely. Marshalltown (Area 6) has $96, while the highest amount, $855, appears in Calmar (Area 1). This, of course, is a function of both the amount of taxable real estate and the number of students being served in the area. Thus, Burlington, with an enrollment of 410, has a back-up of $117 per student. Since real estate values will increase rather slowly, the state might well consider raising the maximum of millage allowed so that each district will have the necessary flexibility to decide for themselves the amount of money they wish to invest in this enterprise.

Another solution which might be considered by the state is differential state funding of operating costs based upon the differentials in available tax revenue from local sources. Such an equalization formula would have the advantage of equating institutional resources for all students. It would also recognize the economic differences which exist within the state.

The method of state funding at the rate of $2.25 per full-time equated student has both advantages and disadvantages. Since each college must commit itself to personnel costs well in advance of knowing its student enrollments, this formula encourages the numbers game. Administrators simply must generate sufficient numbers of students to insure income to meet the costs to which they are committed for the fiscal year. Unfortunately, past appropriations did not provide sufficient

TABLE 45

Local Tax Resources Available To Community Colleges

Enrollment Area	No. of Counties	Assessed Valuation	Annual 3/4 Mill Income	1960 Pop.	Local 3/4 Dollars Students
Calmar (212)	6	$241,545,683	$181,159	115,944	$855
Mason City (1788)	7	389,110,859	291,833	175,387	163
Estherville (830)	5	256,967,463	192,726	85,999	232
Sheldon (227)	4	203,514,317	152,636	69,747	672
Ft. Dodge (1634)	9	529,699,374	397,275	161,988	243
Marshalltown (2110)	3.5	270,925,280	203,194	199,971	96
Waterloo (713)	5	423,000,000	317,250	122,482	445
Bettendorf (1504)	4	501,432,324	376,074	207,967	250
Cedar Rapids (1750)	7	667,371,372	500,529	306,753	286
Ankeny (1115)	9	984,150,000	738,113	476,701	662
Sioux City (475)	4	317,286,022	237,965	173,509	501
Council Bluffs (813)	8	401,526,729	301,145	191,049	370
Creston (529)	10	189,995,879	142,497	89,755	269
Ottumwa (1395)	3.5	316,811,041	237,608	130,478	170
Burlington (1410)		220,099,661	165,075	117,289	117
State Average					355

funds to provide each institution with $2.25 per student. The recent shift to line item appropriation by the legislature for general aid funding gave a few colleges more than $2.25 per student and others substantially less. The state should find a way of providing equity in the support of each student in each college.

There are several models of financing which might be considered. They are as follows:

1. The state, local taxpayers, and students share in equal thirds the annual operating costs.

2. Annual operating costs are calculated upon the number of credit hours generated in each institution each semester. Payment for such hours may be made on a fixed dollar amount from the state. Tuition and local tax income are revised periodically so that the state provides from 30 to 50 percent of the total expense and the balance is shared by students and local taxes.

3. The state might provide a fixed annual grant calculated to cover from 30 to 50 percent of a gross annual student cost. This is essentially a basic education subsidy to which would be added tuition and local income to cover the total annual cost per student.

4. The state might simply assume the entire annual operating costs of these institutions based upon a fixed amount per FTEE.

The provision for vocational-technical funds has made possible the development of a large number of these programs throughout the state. Iowa's deep concern with these often neglected but essential

educational programs is most laudable. The principal difficulty in this area of financing is a tendency to follow a narrow legalistic definition of the use of these funds. Further, a number of college administrators pointed out the serious limitations placed upon educational and administrative planning because such funds are often made available late in each fiscal year. Income from vocational educational funds constituted 31.7 percent of the financial resources of the colleges in 1968-69. It is essential that college administrators have reliable information as to the amount of income they will secure from this source when they are planning their future budgets.

In that approximately a third of the colleges' income originates from this and other federal sources, there is little doubt that educational planning within the colleges has been substantially influenced by this fact. There is no doubt that finance is an essential part of institutional operation. However, educational decisions should be made on the basis of the needs of people not on the basis of securing the largest amounts of money.

Prediction of enrollments in community colleges is very difficult. This is particularly true in Iowa because of the short time these colleges have been in existence, as well the many new programs they have developed in vocational, technical, and adult education. Predictions also depend upon a substantial number of variables which are difficult to foresee. Such variables include:

1. Quality of educational programs provided.

2. Pattern of funding the colleges.

3. Pattern of funding specific programs in each college - academic, vocational-technical, and adult.

4. Amount of funding from tuition, state aid, and federal sources.

5. Population changes within the state.

6. The impact of veterans returning to college.

7. Expansion or stabilization of size of regents universities.

8. Amount and type of public support of private colleges and universities.

9. Expansion, stability, or contraction of course offerings in community colleges.

10. Adequacy of physical facilities and equipment.

11. Changing needs for various types of personnel in business, industry, and government.

12. Rapidity of change in industrial processes requiring fewer people and more sophisticated skills.

13. The viability of the economy nationally and in Iowa.

14. Increase in class sizes in vocational and technical programs.

15. Institutional manipulation of the student-teacher ratio.

16. Consolidation of technical and vocational programs to avoid unnecessary duplication.

Based upon enrollments provided by the Department of Public Instruction for the years 1966-67, 1967-68, and 1968-69 the future enrollments have been projected for estimating purposes on the basis of a low growth of 5 percent annually, and a high growth of 10 percent annually. (Table 46). It is anticipated that enrollments will level off or grow more slowly after 1975. This last assumption is based upon stabilization of Iowa's total population and consistency in the numbers of young people graduating from high school. Table 47 presents annual general fund expenditures based on the projected enrollments.

Programming, Planning, Budgeting System

The programming, planning, and budgeting system recommended for community colleges should be based upon broad participation of faculty and college administrators with particular attention to products, process, and resources. The system requires the identification of the kinds of competencies which the individual student and society desire. Analysis requires that institutional activities be studied for relationships to one another to determine both complementary and competitive aspects. The options generated after the development of objectives makes possible an innovative system in which the resources of the institution can be combined to produce the defined outcomes.

The PPB system requires documentation as to: (1) the program structure and statement of objectives, (2) program analyses (cost-effectiveness analyses) and memoranda, (3) the multi-year program and financial plan.

The preparation of these documents for the PPB system requires:

1. Clarifying and specifying the ultimate goals or objectives of each activity for which a government budgets money.

TABLE 46

Equated Full-Time Enrollments
(Actual and Projected)
(Reimbursable)

Year	Vocational-Technical		College Parallel		Adult Education		Total	
1966	2,150		7,345		699		10,164	
1967	4,720		9,264		2,431		16,415	
1968	7,259		9,236		3,262		19,757	
1969*	8,586		9,844		3,605		22,035	
1970*	9,713		11,081		5,330		26,124	
	Low	High	Low	High	Low	High	Low	High
1971**	10,198	10,683	11,740	12,189	5,595	5,863	27,533	28,735
1972**	10,708	11,751	12,349	13,408	5,888	6,449	28,945	31,608
1973**	11,243	12,926	13,019	14,749	6,211	7,094	30,473	34,769
1974**	11,405	14,218	13,757	16,224	6,565	7,803	31,727	38,245
1975**	11,912	15,640	14,568	17,846	6,583	8,583	33,435	42,069

*DPI Projected

**CEB Projected 1971-75, at 5% and 10% annual increments

TABLE 47

Projected FTEE Costs and General Fund Expenditures 1967-1975*

Year	FTEE Low	FTEE High	Total Cost	Actual Cost FTEE	$1,200 Per FTEE Low	$1,200 Per FTEE High	$1,400 Per FTEE Low	$1,400 Per FTEE High
1967-68	16,416		$22,856,135	$1,392				
1968-69	19,758		27,049,757	1,369				
1969-70	22,035				$26,442,000		$30,849,000	
1970-71	26,124				31,348,800		36,573,600	
1971-72	27,533	28,735			33,039,600	$34,482,000	38,546,200	$40,229,000
1972-73	28,945	31,608			34,734,00	37,929,600	40,523,000	44,252,600
1973-74	30,473	34,769			36,567,600	41,722,800	42,662,200	48,676,600
1974-75	31,727	38,245			38,072,400	45,894,000	44,417,800	53,543,000
1975-76	33,435	42,069			40,122,000	50,482,800	46,809,000	58,896,600

*Based on enrollment projections in Table 46.

2. Gathering contributing activities into comprehensive categories or programs to achieve the specified objectives.

3. Examining as a continuing process how well each activity or program has done - its effectiveness - as a first step toward improving or even eliminating them.

4. Analyzing proposed improvements for new program proposals to see how effective they may be in achieving program goals.

5. Projecting the entire costs of each proposal not only the first year but for several subsequent years.

6. Formulating a plan, based in part on the analysis of program costs and effectiveness, that leads to implementation through the budget.

PPB can be applied to both annual operating and capital budgets. Properly developed it will provide the state with long-range planning of the utilization of its resources to achieve the objectives for which the community colleges were organized. The use of PPB would make possible the detailed analysis of institutional expenditures by program. The general principles of the system are already being applied by the Department of Public Instruction in its analyses of annual operating costs in the three major divisions of the colleges - arts and sciences, career education, and adult education. It is suggested here that the system simply needs additional refinement. With the new budgeting procedures being set up by the state, the distribution of financial resources by program can be shown with great clarity.

Appendix I

INDIVIDUALS INTERVIEWED

Des Moines Area Community College, Ankeny

Superintendent; Assistant Superintendent of Administrative Services; Assistant Superintendent of Student Services; Assistant Superintendent of Instruction; Director for Educational Media; Director for Career Education; Assistant Director of Adult Education; Students in Electronics, Automotive, Diesel, Data Processing; Member of Board of Trustees; Personnel Manager, John Deere.

Southeastern Iowa Area Community College, Burlington

Superintendent; Dean of Instruction, Vocational Technical and Adult Education; Director of Student Personnel Services; Instructor, Practical Nursing; Instructor, Clerical; Students in Welding; President, Radio Station KBUR; Equal Employment Opportunity Administrator, Mason & Hanger-Sike Mason Co., Inc.

Eastern Iowa Community College, Bettendorf

Superintendent; Administrative Assistant; Director of Arts and Sciences; Instructor, Data Processing; Students in Drafting and Design Technology, Electronics Engineering Technology; Member of Board of Trustees; Data Processing Manager, Midwestern Regional Lucky Stores (Food Stores); Public Relations Manager, Alcoa.

Southwestern Community College, Creston

Superintendent; Dean of Instruction; Vocational Counselor; Students in Auto Mechanics, Auto Body, Carpentry and Building Trades, Practical Nursing; President, First National Bank.

Iowa Western Community College, Council Bluffs

Superintendent; Director of Vocational Education; Vocational Director; Director of Student Personnel Services; Students in Biology, Aviation; Sales Manager, World Radio; Employer, Dodge Auto Sales and Service.

Iowa Central Community College, Fort Dodge

Superintendent; Administrative Assistant; Director of Vocational Technical Education; Director of Adult and Continuing Education; Coordinator of Student and Institutional Services; Coordinator of Instruction; Secretary-Business Manager; Instructor, Drafting; Instructor, Electronics; Instructor, Mathematics (including vocational education mate-matics); Students in Food Market Management, Machine Shop; Coordinator, WIN Program; Architect and Member, Advisory Committee on Drafting; Manager, Radio and TV Station; Insurance and Member, College Advisory Committee.

Iowa Tech-Merged Area XV Community College, Ottumwa

Superintendent; Dean and Director of Student Services; Director of Vocational Technical Education; Director of Adult Education; Supervisor of Adult Education; Coordinator of Admissions and Records; Coordinator of Student Affairs; Chairman, Data Processing Division; Instructor, Data Processing; Students in Data Process-ing, Computer Maintenance; Employee in Iowa Employ-ment Service Office; Executive Director, Ottumwa Area Development Corporation

Area X Community College, Cedar Rapids

Superintendent; Director of Public Relations; Director of Student Services; Instructor, Fashion Merchandising, Instructor, Machine Shop; Instructor, Business Administration; Instructor, Welding; Students in Arts and Sciences, Administrative Secretarial Program, Graphic Arts; Prospective Student (at school to enroll for fall).

Area VI Community College, Marshalltown

Superintendent; Director of Vocational Technical Education; Director, Adult and Continuing Education; Dean of the College Arts and Sciences Program; Instructor, Dental Assisting; Instructor, Electronics Technology; Instructor, Drafting; Students in Machine Trades, Auto Mechanics, Electronics; Employer in Auto Dealership; Employer in Farm Implement Business.

North Iowa Area Community College, Mason City

Superintendent; Director of Adult Education; Director of Student Services; Director of Vocational Technical Education; Instructor, Mechanical Design; Instructor, Practical Nursing; Students in Auto Mechanics (3); Service Manager in Federal Garage; Staffing Director at Mercy Hospital.

Milford-Sioux City Area

Milford School District; Superintendent, High School Counselor, High School Principal.

Sioux City: Vice President, Academic Affairs, Morningside College; Dean, Briarcliff College; Director, School of Nursing, St. Joseph Mercy Hospital; Sioux City Police Department; Chief of Detectives, Director of Training, Superintendent of Identification (and also Instructor in Police Science, Iowa Western Tech School).

Clinton Area

Principal; Superintendent, Camanche; Superintendent, Maquaketo; Director of Vocational and Adult Education; Instructor, Vocational Agriculture; President, Mount St. Claire College; Director of Nursing, St. Joseph Mercy Hospital; Director of Nursing, Jane Lamb Hospital; Administrator, Jane Lamb Hospital; Members of the staffs of A. C. Nielson Co., DuPont Co., Clinton Corn Processing Co., Chemplex Co.

Des Moines Area Community College, Ankeny

Superintendent, Des Moines and Indianola; President, Grand View College; President, American Institute of Business; Dean of Students, Grand View College; Director of Vocational Education, Des Moines Tech High School; Principal, Indianola High School; Instructor, Graphic Arts, Des Moines Tech High School; Instructor, Pre-Health, Des Moines Tech High School; Manager, Chevrolet Motors, Urbandale; Manager, Chrysler Motors, Indianola; Manager, Tailoring & Alterations, Younkers, Des Moines; Manager, Tailoring & Alterations, Foreman & Clark, Des Moines; Personnel Director, Des Moines Register & Tribune Students (3).

Iowa Western Community College, Council Bluffs

Superintendent, Council Bluffs, Treynor, and Glenwood; Director, Vocational Education at Council Bluffs; Instructor, Printing-Graphics, Council Bluffs; Business Representative of the Labor Union; Manager, Bell Telephone Co.; Personnel Director, Mutual of Omaha; Manager, Omaha Printing, Inc.; Personnel Director, First National Bank; Personnel Services Supervisor, Northern Natural Gas; Supervisor of Personnel, Mercy Hospital; And Attorney (member of the State Education Advisory Council); High School Graduate now a Secretary; High School Graduate now a Receptionist; Students (3).

Northeast Iowa Area Vocational School, Calmar

Superintendent; Director of Vocational-Technical Education; Director of Adult Education; Instructor, Secretarial Practices; Instructor, Construction Engineering; Instructor, Drafting; Owner of Retail Store; Chief of Police; Machine and Tool Salesman; Students (5).

Area VII Community College, Waterloo

Superintendent; Director, Vocational-Technical Education; Director, Student Personnel Services; Director, Adult and Continuing Education; Placement Officer; Instructor, Ag Power; Instructor, Welding; Students (3), Welding; Student (1), Ag Power.

Area IV Community College, Sheldon

Superintendent; Director, Vocational-Technical Education; Director, Adult Education; Counselor, Student Services; Instructor, Refrigeration-Air conditioning; Instructor, Building Maintenance; Student (1), Power Lineman; Student (1), Diesel Mechanics; Student (1), Clerical Accounting.

Burlington Area

Superintendent of Schools, Mount Pleasant; Superintendent of Schools, Winfield; Superintendent of Schools, Fairfield; Superintendent of Schools, Burlington; Vice President for Student Affairs, Parsons College; President, Iowa Wesleyan College; Housewife and Former Member of Governor's Educational Advisory Committee; Superintendent of Area School XVI; Director of Vocational Education, Area School XVI; Business Representative for Machinist's Union, Burlington; International Representative for Machinists and Aerospace Workers, Burlington; Service Manager, Sheets Motors, Mount Pleasant; Industrial Relations Supervisor, Case Plant, Burlington; Graduate of Area School, Secretarial Practices, Burlington; Graduate of Area School, Arts and Sciences, Burlington.

Appendix II

INTERVIEW SCHEDULE

Office of Planning and Programming
State of Iowa
Study of Vocational Education
in Area Schools

_____
(Institution)

_____
(Code Category)

Code

1. Faculty Recruiting

A-B-C — From what sources does the institution recruit faculty?

What criteria are used in selecting faculty?

G-I-J — Educational background, business or industrial experience, previous teaching experience?

Geographic distribution; sex and age distribution?

2. Purposes and Goals of the Institution

A-B-C — List educational objectives of this institution.

D-E-F — How do the courses and curricula specifically relate to these objectives?

H-H-I — Do you foresee a change in the educational goals of the institution in the future?

J — If so, what changes do you anticipate and how will they be effected?

3. Fiscal Adequacy

A-B-C — What is the gross annual budget for operations (do not include capital expenditures)?

What is the annual FTE student cost?

D-G-I — What do you think the FTE student cost ought to be?

J — What is the formula for capital support for the institution (plant, equipment, library and teaching materials)?

How do faculty salaries compare with salaries in high schools in the area?

What fiscal support for the institution's program is obtained from industry?

From the community? Etc.?

4. Quality of Teaching

A-B-C
D-E-F
G-H-I
J — For how many different courses does the teaching staff member have to prepare each semester?

5. Clientele

General dimensions of socio-economic patterns of the population.

A-B-C — In- and out-migration patters of the area population and also of the students.

D-E-F-

Educational level of general population.

G-H-I

Percentage of population going on to post-secondary education.

J

General nature and level of student population's occupational-career aspirations.

6. Labor Force

Labor needs of the community and the faculty and quantity of student output.

A-B-C

1. What is the main industry?

D-E-F

2. What is the declining industry?

3. What is the growing industry?

G-H-I

Does this college's program qualify graduates to fill the job vacancies of the community?

J

Have there been any major adjustments of program to make a better fit with labor force needs? Present and future?

A-B-C 7. College-Community Relationships

D-E-F

Are there Advisory Committees?

G-H-I

Who serves on such committees?

J

What are the functions of the Committee(s)?

What other methods are used to interact with the community?

8. Recruitment - Selection of Students

Describe relations with local high schools.

A-B-C

Describe relations with adults.

Does the institution openly recruit students,

D-E-F

including adults?

What are the admissions criteria?

G-H-I Do the admissions criteria have specific relevance to the various program offerings?

Does the institution have a scholarship aid program?

J What sources of scholarship aid are available?

Is there a work-study plan for students?

9. Upgrading Staff

A-B-C Attitude toward an inservice-training program.

E-F-I What means are used to encourage the staff to participate in inservice training programs?

10. Student Dropouts

What are the academic and performance standards of the institution?

Its grade requirements?

A-B-C Are they too rigorous, too low?

D What counseling services are provided?

Has a follow-up study on dropouts been conducted?

11. Projecting Curriculum Development

What is current status?

A-B-C What are plans for changes next year?

D-E-F What are plans for changes over the next 5-8 years?

G-H-I Does the institution have an overall long-range master plan?

J Is there inter-area school planning underway?

12. Physical Plant Development

Is there a master plan for physical faculties?

A-B-C Is the plan coordinated with the program plan?

How adequate are the following:

D-I-J Student housing? Faculty offices? Classrooms? Laboratories? Libraries? Study areas?

13. Equipment

A-B-C Does the equipment and the library provide adequate and direct support to all curriculum areas?

D-E-F Is there a carefully-delineated acquisition plan?

H-I-J What replacement schedule is followed?

14. State-Wide Administration and Control of Institutions

How much local autonomy does this institution have?

A-B-C

What decisions for the operation of this institution are made at the state level?

D-I-J How does the state aid and assist the school in its daily operation and decision-making?

What kind of state relations would be preferable?

15. Students Transferring to Four-Year Colleges

Where do they go?

A-B-C What do they take?

How successful are they?

D-G-H What are primary influences on their choices of institutions?

What organized articulation efforts with four-year institutions are underway?

16. Chief Administration

Selection process

A-I-J Personal and professional background

What is his perception of his role?

17. Balance of Vocational Education with Liberal Arts Programs

Distribution of students between the two.

A-B-C

Explanation of functions to be served by inclusion of liberal arts courses in vocation-education program.

Liberal arts courses in vocational-education program.

D

Which area is most important?

18. Student

Adequacy as demonstrated by full-time, and part-time staff

A-B-C Is there an orientation program?

D-I Provision for remedial - tutorial efforts.

How are athletic programs financed?

19. Institutional Evaluation

Is there an ongoing effort of self-study?

A-B-C

Are there studies of institutional effectiveness going on?

20. Open-End Questions

A-B-C What do you think is the greatest strength of this institution?

D-E-F

What do you view as the most serious weakness

G-H-I of this institution?

J How can it be corrected?

A - Chief Administrator

B - Faculty

C - Student-Personnel Offices

D - Students

E - Industry Leaders

F - Union Representative

G - Private College and Proprietary School Administrator

H - Public School Administrator

I - Department of Public Instruction

J - Vocational Advisory Council

Appendix III

BIBLIOGRAPHY OF MATERIALS REVIEWED

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